

Jul 13 '54

NATIONAL FISHERMAN

Formerly **ATLANTIC FISHERMAN**

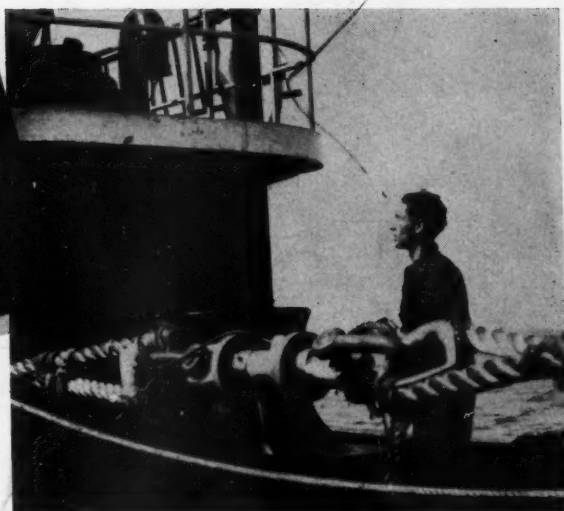
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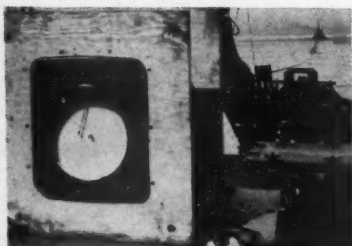
V. 35 #5-12
June 1954
Jan. 1955

Columbian STRAIN GAUGE helps Moran Tugs Select Safer Towlines

The pictures on this page were taken during the course of a grueling test designed to assay the strength of General Tire Company's new nylon tire, the General Hygen. Details of this test may be found in the Saturday Evening Post for May 22, 1954, or Life Magazine for June 14, 1954.



Strain Meter is composed of two parts. First, above, is cylindrical electric gauge, coupled in the towline just aft of towing bits. Accurate poundage pull impulses are sent along insulated wire to second Meter component (below).



Dynalog, or electronic recorder, is attached to bulkhead, and receives impulses sent forward by towline gauge. Accurate, minute-to-minute log of entire haul is recorded by needle on circular chart.

In a series of tests to determine types of hawsers and towlines which will give the safest and most economical performance under the widest variety of conditions, the Moran Towing and Transportation Company is using a device specially engineered for the purpose.

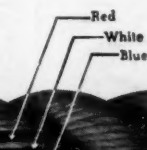
This is a Strain Meter, developed by Columbian Rope Specialists in cooperation with recording-instrument engineers and Moran technicians. During the past two years, it has developed such important information as the precise measurement of peak loadings and high impact loads in deep sea towing in bad weather... the type of hawser which would best distribute or spread out shock loads... the strain in pounds transmitted to towing bits, winches, etc.

This project represents just one of the many ways in which Columbian serves customers by extensive research in finding the best product for the particular use.

COLUMBIAN ROPE COMPANY

Auburn "The Cordage City", N. Y.

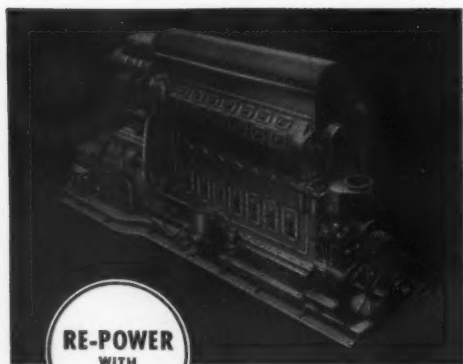
The Rope with the Red, White and Blue Markers



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He's spending
more time
at sea...
that's why



RE-POWER
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Model 38F Marine O-P Diesel for
the 225 to 750 horsepower class.

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Yes, there is a lot of talk on shore these days about those boats that have been re-powered with the newest in marine diesel power—the Fairbanks-Morse Opposed-Piston engine in the 225 to 750 horsepower class.

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There are more facts on the 38F that will be of great interest to you—low maintenance, reliability and economy. Call your nearby Fairbanks-Morse Marine Specialist—you'll be glad you did when you start spending more time at sea. Fairbanks, Morse & Co., Chicago 5, Illinois.



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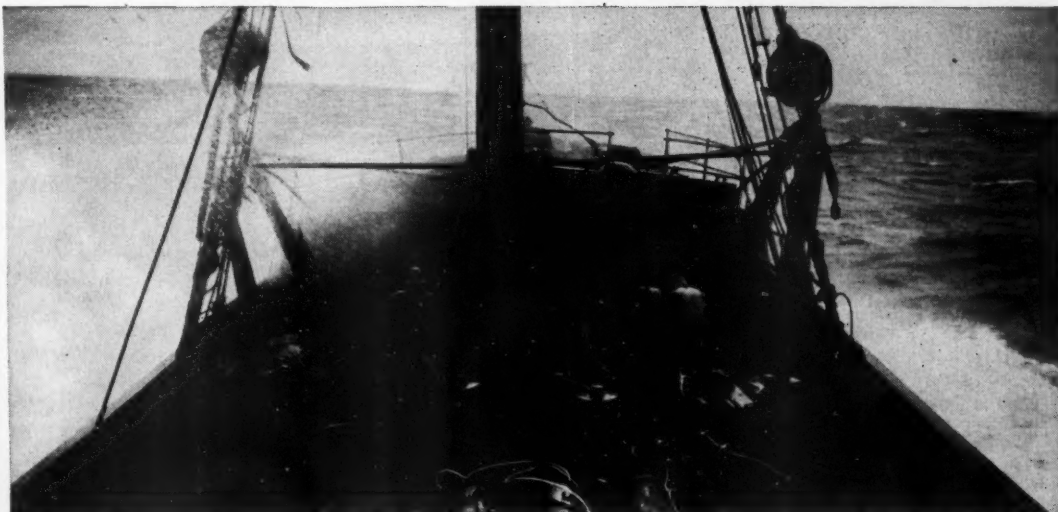
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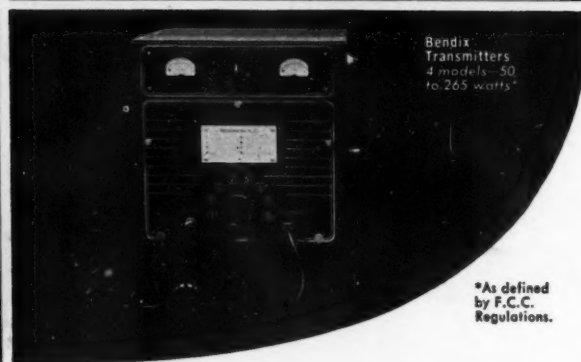
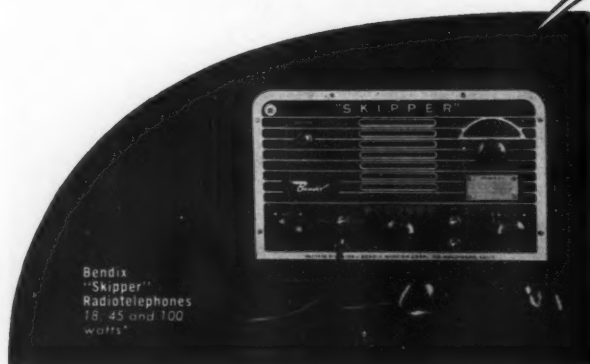
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In this issue

Drum Seining Proves Effective on Pacific Coast	15
Fish Sticks in Spotlight at Cleveland Convention	17
New England Shrimp Research Program Needed	21
"Mother Frances" Is Outstanding T Wharf Dragger	26
James, Director North Pacific Fisheries Commission	29
"Peerless" Is 50th Trawler Built by Conrad Industries	31

NEWS REPORTS

Boston	36
California	28
Connecticut	35
Florida	23
Georgia	33
Gloucester	37
Great Lakes	32
Louisiana	30
Maine	25
Maryland	24
Michigan	32
Mississippi	23
New Bedford	47
New Jersey	24
New York	34
North Carolina	33
Oregon	28
Pacific Coast	28
Rhode Island	35
Texas	48
Virginia	30
Washington	29
Wisconsin	32

REGULAR DEPARTMENTS

Sounding-Lead	8
Equipment and Supply News	38
Fish Landings for May	42
Canadian Report	50
Vineyard Bailings	51
Where-to-Buy Directory	52
Classified Advertising	54

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NATIONAL FISHERMAN

Formerly **ATLANTIC FISHERMAN**

Serving the Commercial Fishing Industry of the United States

A New Name and Expansion to Pacific

This month, Atlantic Fisherman becomes the National Fisherman, and its territory is expanded to include the Pacific Coast. Rather than a change, the new name reflects a continuation of the magazine's growth, matching the widened outlook of the fishing industry.

Advancements in production, processing, packaging and distribution have made fishery products from all producing areas available throughout the country, and, as a result, the interests of the fishing industry have become National in scope.

Since the relative abundance or scarcity of a particular variety in one section often affects the market for another variety elsewhere, it is advantageous for fish and shellfish producers to have an overall picture of fishing activities in the East, South and West.

From an operating standpoint, it is desirable for fishermen to be conversant with the latest developments in fishing methods, wherever they are used. A new type of fishing gear successfully employed on one coast, may have profitable application on the other Coast.

Regardless of where commercial fishing is carried on, a boat usually is necessary. While boats may vary considerably in size and facilities, there are many items of equipment that are common to all. Problems of navigation and requirements for boat maintenance are universal, and much fishing gear is of basic types with modifications to suit local conditions and preferences.

By being familiar with boats in all sections of the country, fishermen are better able to improve the design, construction, and outfitting of

their own boats. New ideas for installation and utilization of equipment frequently lead to more efficient operation.

Fishery research programs and technological studies are becoming more widespread, and are receiving increased recognition. The results of such work in one locality often are of concern to other segments of the industry. Legislation affecting the fisheries can be of general interest, and international relationships pertaining to fishery resources and foreign trade may be of nation-wide consequence.

It is evident that there is need for a full interchange of information on proper utilization of fishery resources, fishing regulations, fishing boat design and operation, and fishing techniques. This points to the value of an industry magazine with National coverage, which can keep commercial fishermen posted on trends and developments on the entire coast line from Maine to Texas and California to Washington.

National Fisherman will fulfill this need by factually reporting and interpreting significant events in all geographical divisions of United States fisheries. It will continue to provide the same editorial coverage of industry activities and technical progress on the Atlantic Coast, Gulf of Mexico, and Great Lakes, with an extension of this service to the Pacific Coast.

As has been done by Atlantic Fisherman for 35 years, National Fisherman will promote the best interests of fish producers by supporting economic, scientific and legislative programs which serve to foster the orderly growth and increased prosperity of the industry.

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President

GARDNER LAMSON
Publisher and Editor

A. E. BROWN
Managing Editor



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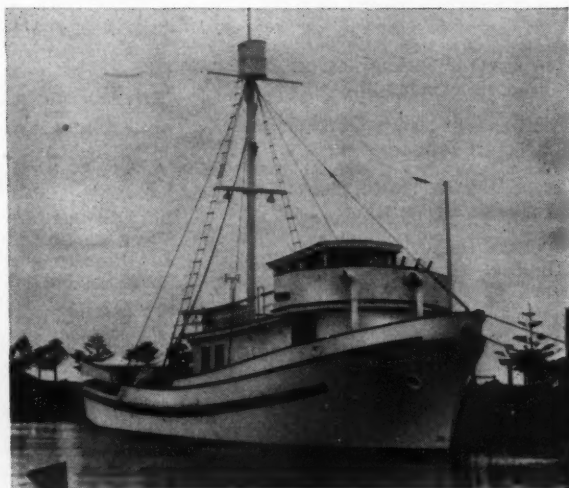
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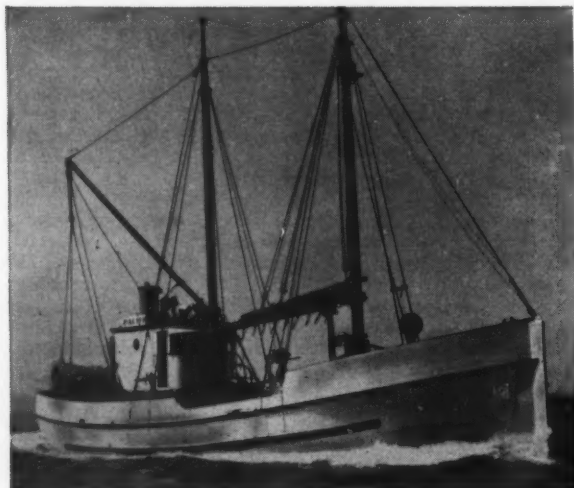
they all enjoy economical diesel power!



THIS 103-FOOT DRAGGER depends upon a rugged 400 hp Superior Diesel for long trips and record hauls in the North Atlantic. Even under adverse conditions, Superior Diesels mean reliable, low-cost propulsion, and establish records for long life.



THIS FIRST PURSE SEINER built in Australia is powered by a 240 hp Atlas Diesel. The simple design of Atlas Engines means easy maintenance and lower weight per horsepower—while precision parts and heavy-duty frame insure exceptionally long life.



THIS WEST COAST SCHOONER uses a Lister FR2 to operate its refrigeration compressor and electric generator. Fishermen find that Lister's unique dual combustion chamber insures easy starting and fuel economy, in every type of auxiliary service.



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"Fishermen have found that they need fewer sets of nets per year, fewer replacements, that the nets are easier to handle and the gear needed is lighter...yet the number of fish caught per net is greater."

Excerpt from a report on NYLOCK from the "Monthly Review" of the Federal Reserve Bank of Boston.

Read this amazing report on

NYLOCK®

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NYLON TWINE

Fishermen also tell us that nets made from NYLOCK Nylon Twine...

- Catch more fish—nets are sharper
- Have practically no knot slippage
- Need no preservatives—no drying
- Do not fray or fuzz



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Monthly Review FEDERAL RESERVE BANK OF BOSTON The Impact of Science in the Fishing Industry

by DANIEL P. NORMAN

Fishermen are continually modifying minor details of mesh size and structure of their nets, but the materials from which the nets are made—cotton, linen, and other vegetable fibers—have remained essentially unchanged since Pharaonic days. It remained for a New England textile firm to develop a process for adapting new man-made fibers for fish nets. The chemical industry had a major share in this development since it was responsible for the production of the basic fibers and the resins which are used to make them suitable for the fisheries use. Yet it took textile know-how to combine these chemical products with the necessary physical processes to produce new fibers which are not only suitable for use in fish nets but are also far superior in many respects to conventional fibers used for this purpose.

The first man-made fibers, the rayons, were unsuited for use as fish nets because their tensile strength, particularly when wet, was much lower than that of the natural fibers. As early as 1939, less than a year after nylon was in commercial production, Gloucester fishermen experimented with nylon nets. Wartime allocations removed nylon from the market, and fishing experiments were suspended until 1945. From 1945 to 1949 nylon in many forms was tried in fishing nets. These trials all showed that nylon, despite its advantages of rot resistance, low weight, and durability, was not suitable as a net material because the net knots would open up with even slight flexing of the net, letting the fish escape. A second fault was that repairs to broken meshes were difficult because the nylon twine frayed into strands at broken or cut ends. Furthermore, rusted metal attached to the nylon chemically, so that the fibers disintegrated rapidly whenever they came in contact with rusted metal fittings on winches, trawl doors, and the like. In attempts to overcome these drawbacks, nylon was twisted into every possible type of twine, and scores of experimental nets were sold and given to fishermen for test purposes, but they were unsuccessful.

In 1949 a New England corporation made a scientific study of the net problem and came up with a process which eliminated nylon's faults while retaining all its virtues. This specially treated and processed nylon is sold under the trade name of Nylock; the other new man-made fibers are similarly processed and treated for use in nets, and are sold under the corresponding trade names of Dalock (for Dacron), Orilock (for Orion), etc.

The "lock" process consists of applying a resin to the synthetic fiber, stretching the fiber to the point where its residual stretch or elongation is the optimum required for fishing nets, and setting the resin with heat so that it holds the fiber at the desired stretch. The applied resin coating therefore performs the dual function of providing an anti-slip friction coating which enables the fibers to retain knots, and holding the fibers at

the proper tension so that they have just the desired degree of stretch and strength. It also minimizes fraying and prevents the destructive action of rot.

The fish net industry does upwards of \$60 million worth of business per year. A large proportion of the nets are manufactured by a few large, vertically integrated firms. That is to say, these firms are organized to process raw vegetable fibers into finished threads, which, in turn, they make into finished twine and nets. These manufacturers consequently were not enthusiastic about making Nylock nets because it meant cutting back operations in their thread spinning departments and obtaining the processed nylon from an outside supplier.

Gill net fishermen have been so insistent on getting Nylock nets, however, that manufacturers have increased production to meet the growing demand for these nets. Today, fishing boats on the Great Lakes use them almost exclusively.

Nylock gill nets have many specific advantages over those made from natural fibers. Fishermen have found that they need fewer sets of nets per year, fewer replacements and that the nets are easier to handle and the gear needed is lighter. Yet the number of fish caught per net is greater. One further advantage of the Nylock nets over other nets is that the resin treatment of the nylon fibers smooths and combs down the fuzz on the surface of the fibers, thus leaving a smooth area of surface on which phosphorescent organisms may settle. This is an important feature, because on occasion so much phosphorescence gathers on conventional nets that they appear to be on fire, and the fish avoid them easily. This same absence of fuzz may also account, in part, for the greater number of fish caught in Nylock nets. Apparently many fish can sense fuzzy fibers in time to back water and escape the meshes of the net; in the absence of fuzz, the fish are caught and held by the net before they can retreat.

Nylock is not restricted to use in gill netting. The first complete, all-Nylock, trawl net is now being towed by a small dragger out of Point Judith, Rhode Island. A trawl net is a big bag net towed along the ocean floor and kept open by a pair of nine-foot wooden "kites" or "trawl doors." The weight and water resistance of a complete trawl is so great that a dragger cannot detect the difference in the power requirement of towing an empty net or one full of fish. Nylock is therefore of value not only because of its intrinsically low weight, but because its cross section, and hence water resistance, is much less than that of vegetable fibers of equal strength. The Point Judith dragger, for example, reports that her maximum tow was formerly a 35-foot cotton trawl. She is now successfully towing a 60-foot Nylock trawl, thereby increasing her fish-catching ability.

The above article was written by Dr. Norman through a research grant from The Federal Reserve Bank of Boston

Convince yourself! Get in touch with one of the following manufacturers who make nets of U.S. Patented NYLOCK Nylon Twine:

• ADAMS NET & TWINE DIVISION, 701 N. 2nd St., St. Louis, Mo.

• EDERER DIVISION, 540 Orleans St., Chicago, Ill.

• PAULS FISH NET DIVISION, 357 W. Ohio St., Chicago, Ill.

• Divisions of The Linen Thread Co., Inc., 418 Grand St., Paterson, N.J.

THE FISH NET AND TWINE CO., 310 Bergen Ave., Jersey City, N.J.

HOPE FISH NETTING MILLS, INC., Hope, Rhode Island

JOSEPH F. SHEA, INC., Successor John S. Brooks, East Haddam, Conn.

A. M. STARR NET CO., East Hampton, Connecticut

THE CARRON NET CO., 1623 17th Street, Two Rivers, Wisc.

FOREIGN AGENT: Turner, Halsey Co., Inc., 40 Worth Street, New York, N.Y.

Sounding-Lead

Saltonstall-Kennedy bill, which passed Senate on May 14, recently received unanimous favorable report from House Merchant Marine and Fisheries Committee. As passed by Senate, measure would transfer from Department of Agriculture to Department of Interior maximum of \$3,000,000 per year for three years, or total of \$9,000,000. Funds would be derived from duties on fish imports, and would be used for fisheries education, promotion and research, understanding being that by end of three years program may be included in regular appropriations for Fish & Wildlife Service.

Tariff Commission has sent report to President Eisenhower in groundfish fillet case. Domestic industry is seeking quota on groundfish fillets (cod, haddock, hake, cusk, pollock, and ocean perch). Fact that a report on the case was made to the President is indicative that Commissioners' vote was within range of 2-2 tie and 6-0 unanimous decision in favor of New England industry's application for relief. President must make decision on matter by July 7.

High seas fisheries protection bills were introduced in U. S. House of Representatives May 25 by 34 Congressmen. Legislation was unanimously endorsed by directors of National Fisheries Institute at their recent convention.

Known as "Fisherman's Protective Act of 1954," principal objectives of legislation are to provide for clear statement by United States of where fishermen may legally operate on high seas under U. S. protection against interference by other nations. The bills provide that in event of seizure by a foreign nation while operating in what U. S. considers to be high seas, fishermen would be indemnified by U. S. for any losses sustained as a result of such seizure.

By terms of the bill, high seas are defined as area of ocean outside 3-mile territorial waters belt measured from low water mark. Exceptions to traditional 3-mile concept are provided, however, in cases of treaties, U. S. laws, policy as to bays, etc., and in the instance where a nation avails itself of so-called "abstention principle" in protecting any of its fisheries which may lie in high seas.

Under this latter concept a U. S. fishing vessel would not receive protection of the Act if it engaged itself in fishing operations on a stock of fish which has been fully developed, investigated and conserved by a nation or group of nations asserting the principle. The Act, in effect, recognizes the right of a nation to compel abstention by others in fisheries meeting the test set forth.

Additions to fleet of fishing vessels during first four months of 1954 amounted to 272 craft of five net tons and over, compared with 187 during same period in 1953. Gain in documentation this year occurred almost entirely in Gulf States where 153 vessels were added to fleet, compared with 65 in same period of 1953.

Extension of old age security coverage to all segments of fishing industry has been tentatively agreed to by Committee on Ways and Means of U. S. House of Representatives. Under present law, persons engaged in fishing and similar activities are excluded from old age security coverage unless their services are performed in connection with commercial salmon or halibut fishing or on a vessel of more than 10 net tons. The Committee adopted a provision which would repeal this exclusion and cover employment in fishing and similar activities generally.

Catch of menhaden during 1953 amounted to 1,670,888,200 lbs., and was by far the largest yield of these fish

in history of industry, as well as heaviest landings of a single species ever made by United States fishermen. Previous record was held by California pilchard, or sardine, which in 1936 yielded catch of 1,502,000,000 lbs.

The 1953 catch of menhaden was used to produce 174,752 tons of dry scrap and meal valued at \$21,767,200; and 17,824,500 gallons of oil, worth \$8,806,300. In addition, production of condensed fish solubles amounted to 78,077,000 lbs., valued at \$3,593,000.

Menhaden accounted for nearly 40 percent of domestic catch of fish and shellfish in 1953. Total production of these fish since inception of fishery is well over 40 billion lbs.—far more than catch of any other species taken by fishermen.

U. S. aid for Norwegian fisheries has been made available under Foreign Operations Administration (formerly Mutual Security Administration) program. Under plan, \$70,000 will be earmarked for loans to aid modernization of retail fish stores. The acquisition or installation of fishmobiles will be aided by a \$42,000 loan fund. A total of \$56,000 will be used to subsidize technological research in fish processing, mainly by developing new methods of freezing fillets and whole fish.

Activities of Committee for Fisheries Education will be subsidized in amount of \$98,000, which will be used to pay for consultants to retail trade, production of educational films, printing of more promotion pamphlets, and expansion of personnel. Final \$56,000 will be set aside for scholarships to selected workers in Norwegian fishing industry.

Pack of canned clams and clam products in United States and Alaska during 1953 amounted to 1,645,300 cases, valued at \$12,629,800 to the canners, according to a preliminary tabulation by the Fish & Wildlife Service. Volume of clam pack was 3 percent below record production of previous year; however, value established new record. Packs of whole and minced soft, hard, and razor clams were considerably below normal, but production of canned chowder and juice was largest in history.

Imported fish blocks made from groundfish fillets, the characteristics of which fillets have not been altered, will be dutiable under Tariff paragraph 717(b) at 1½ cents and 2½ cents per lb., which are the same rates applicable to groundfish fillets. Decision is expected soon from Bureau of Customs on rate of duty for fish sticks.

Pack of mackerel and jack mackerel during 1953 in United States amounted to 442,450 standard cases valued at \$3,730,800 to canners. This was a decrease of 71 percent in volume and 67 percent in value from 1952 pack. Canners report that decline was primarily due to scarcity of fish in California waters. The 1953 pack was the smallest reported since 1932, when the output was 94,700 standard cases.

Shrimp Association of America will hold its third annual meeting in Mexico City, Mexico, July 15-17. Business meetings will be held in office of the Camara, and hotel reservations can be made by addressing Camara Nacional de la Industria Pesquera, Dolores 17, Mexico City, Mexico.

Labeling of fish sticks is a matter on which there is much confusion among the industry. The law, as announced by Food and Drug Administration, is as follows:

It is illegal to alternatively label fish sticks; that is to say, a label stating that fish sticks are made from "cod, haddock, or pollock." If, for instance, the sticks are made from cod, the label must so state. If the sticks are made from a combination of species, the label must state this.

Southeastern Fisheries Assoc. will hold second annual meeting at George Washington Hotel in Jacksonville, Fla., June 27-29.

70-Foot
DRAGGER
JOAN
and
URSULA
of
NEW
BEDFORD

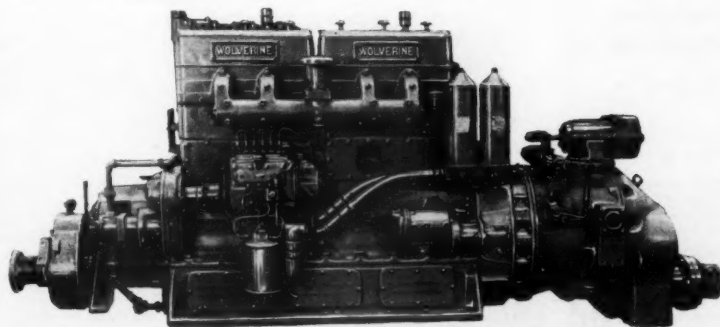


WOLVERINE DIESEL

"Runs like a sewing machine" says *Capt. Matheson*

The groundfish dragger "Joan & Ursula" is powered by a WM-1905, 7 x 8¼ Wolverine-Waukesha Diesel, rated 255 hp. at 1000 rpm. With 3:1 reduction gear and 56 x 38 propeller, it gives her a speed of 9½ knots loaded.

Commenting on the engine, installed two years ago, Capt. Paul A. Matheson, Jr. says: "Our Wolverine is the finest kind of engine and runs like a sewing machine. The power is always there, and it is very economical to operate."



Model WM-1905, 6 cylinder, 7 x 8¼, 255 hp., 1000 rpm. Wolverine-Waukesha Diesel.
Can be furnished turbo-charged to develop 360 hp. at 1000 rpm.

The "Joan & Ursula" is owned by Capt. Rudolph Matland, who also operates another Wolverine-powered dragger, the "Dauntless". She went shrimping in the South during the past Winter, and is under command of Capt. Francis "Sharkey" Folger.

The "Dauntless" has a WM-1197 Wolverine-Waukesha Diesel rated 210 hp. at 1400 rpm. with 3:1 reduction gear, which has given 3½ years of highly satisfactory service.

Dealer Inquiries Invited

WOLVERINE MOTOR WORKS, INC.

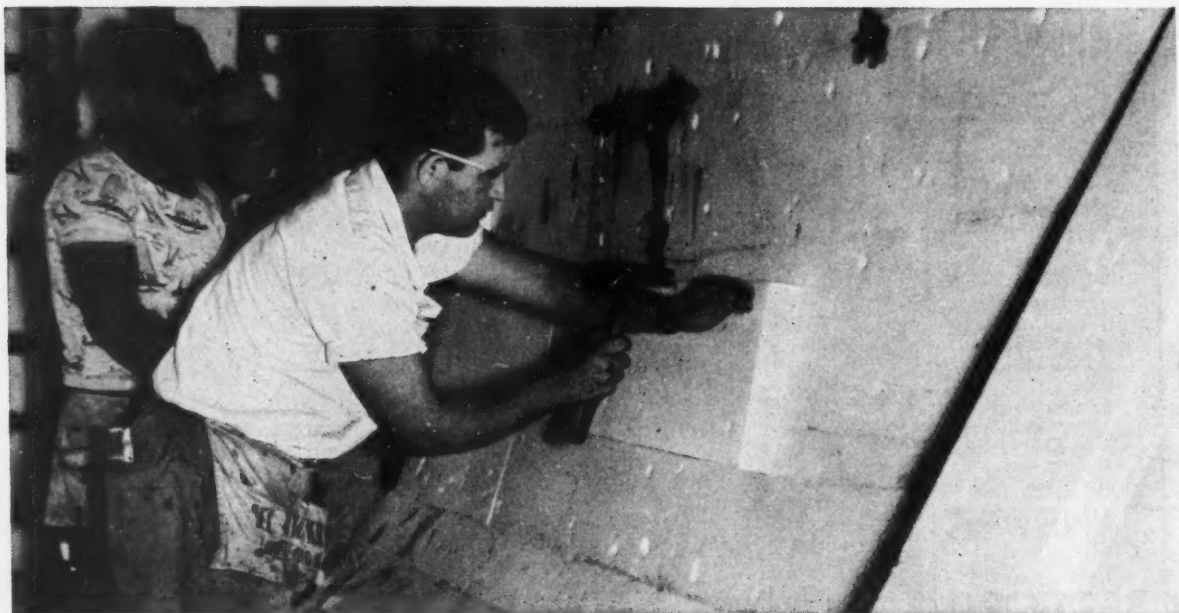
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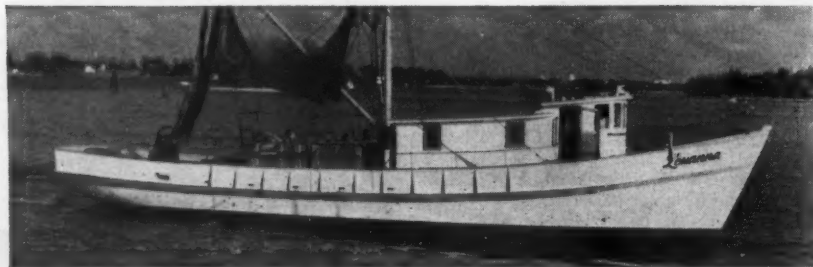


Longer shrimp runs... bigger pay loads with Styrofoam-insulated freezer boats

Easy-to-install STYROFOAM insulation, with superior water resistance, keeps temperatures down in refrigerated holds.

As trawler operators probe farther and farther into distant shrimp grounds, improved facilities for maintaining a well-refrigerated catch become a vital necessity. Owners and operators have found that the low thermal conductivity of Styrofoam® trims mechanical refrigeration costs and significantly cuts consumption on ice-loaded ships. That's why builders and owners of profitable fishing fleets appreciate these advantages of Styrofoam, Dow expanded polystyrene, for insulating refrigerated or freezer holds: Low "K" Factor • Low Cost • Superior Water Resistance • Long Life • Light Weight • Resistance to Rot and Attack by Vermin • Easily Installed • Positive Buoyancy • Available in Standard Sizes

Whatever your marine insulation project may be, investigate Styrofoam low-temperature insulation. Laboratory tests and actual use have proved it to be the most perfect low-temperature board insulation yet developed. For your copy of the Styrofoam data booklet, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastic Sales, PL 721F.



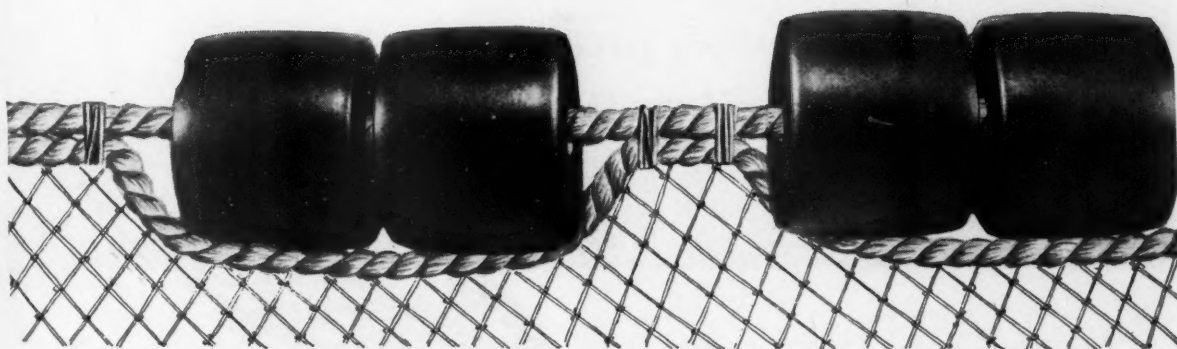
The freezer and storage rooms of the 73-foot "Louanna" are insulated with ten-inch thickness of Styrofoam. This shrimp trawler, built for Charles Ludwig of Miami, and operating as the Southland Shrimp Company of Tampa, Florida, carries facilities for freezing up to 1,000 lbs. of shrimp every eight hours. Built by Modern Trawlers, Inc., St. Augustine, Florida.

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DOW



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NEW SPONGEX SEINE FLOATS



give you these advantages:

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- Nets and lines do not foul on the smooth plastic surface of Spongex floats.

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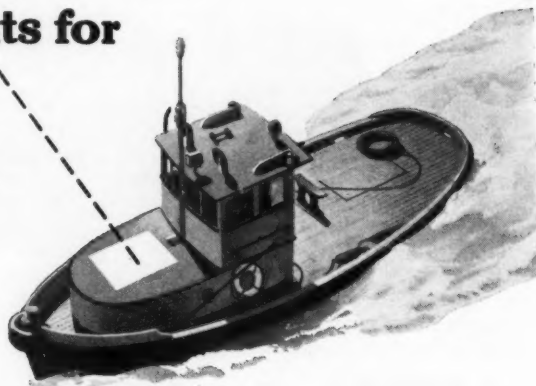
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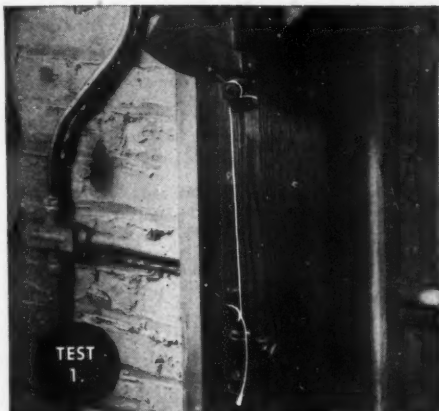
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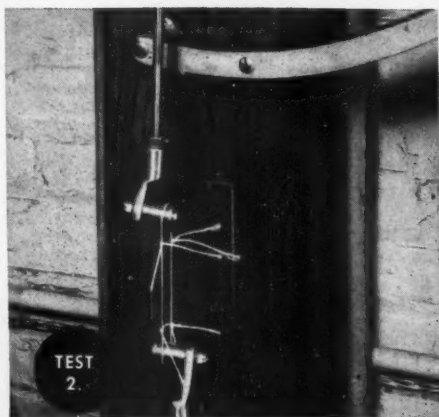
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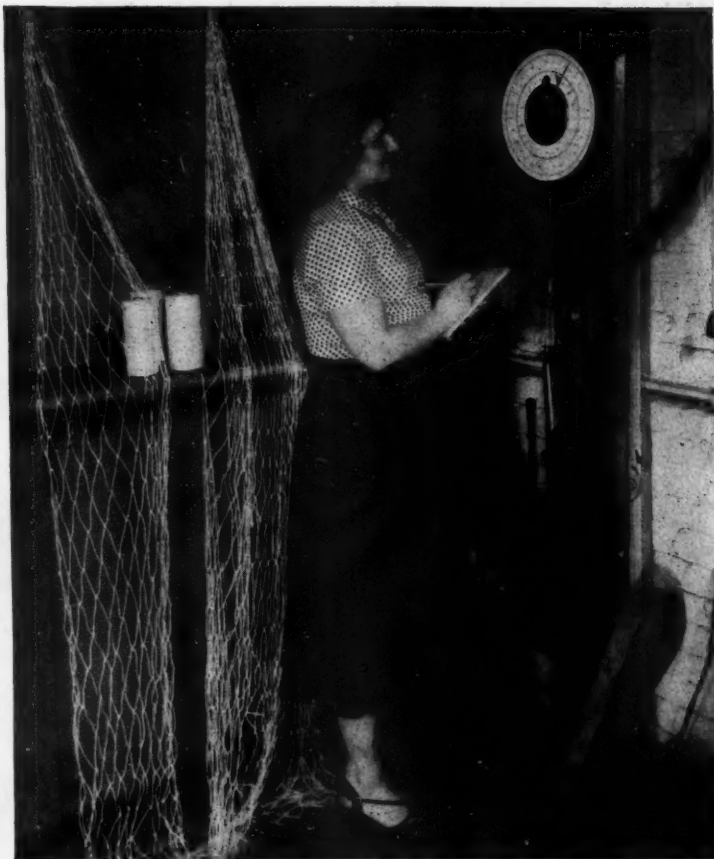
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Single twine test



Mesh test

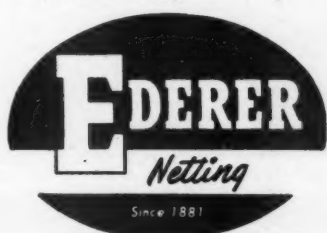


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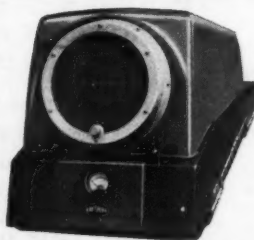
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Drum Seining Proves Effective on Pacific Coast

Keith A. Smith reports that Puget Sound salmon fishermen find new method saves labor and allows them to make more sets per day*

A NEW type purse-seine vessel has appeared in the Puget Sound, Washington, salmon fishery. In place of the conventional turntable, this vessel uses a large drum or reel mounted on the stern for setting, rewinding, and carrying the purse seine.

Although one such drum seiner has been fishing out of Bellingham for several years, the first general trend toward the use of the new method became noticeable at the start of the 1953 season, at which time 11 other seiners had been converted to this type of gear. The system originated in Canada, where a number of British Columbia fishermen have been operating drum-seine boats successfully for several years.

Doubts were expressed at the beginning of the 1953 season by some fishermen as to the ability of drum seiners to catch sufficient numbers of salmon, especially in deep water and tide rips. A number of problems in operating the new gear were encountered at first, but results indicate that most of the drum seiners had a successful season.

Statistics collected by the Washington State Department of Fisheries for July 1953, in the Point Roberts-Boundary Bay area where most of these boats fished, show an average catch of 317 salmon per boat per day for the drum seiners as compared with 219 salmon per boat per day for the conventional seiners. According to a reliable report, a drum seiner was high boat for the season in this area.

As a result of this excellent showing, many additional purse seiners are expected to be converted to drum seining for the 1954 season. The Bellingham firm that performed the conversions on 10 of the 12 boats that operated in 1953 is reportedly swamped with orders. Some observers feel that a revolution in the purse-seine fleet is under way.

Seine Is Wound on Drum

The main unit of gear in this system is the drum or reel upon which the seine is wound. This drum is mounted on

*Fishery Methods and Equipment Specialist, Exploratory Fishing and Gear Development Section, Branch of Commercial Fisheries, Fish & Wildlife Service, Seattle, Wash.



Pursing and hauling of the net getting under way on a drum seiner. The fisherman at the left controls the action of the drum and the level-wind spooler, both of which are geared to the main engine on this particular vessel.



Drum seiner on Boundary Bay, Puget Sound, Washington.

the stern of the vessel either above the deck or in a well that is built into the deck. It is constructed of sheet steel and is designed to hold from 250 to 300 fathoms of purse seine. The drum is 6 to 8' in diameter and as long as the beam of the vessel will permit. The diameter of the core is about 10".

At the stern a roller is provided that is similar in design and function to the roller of the conventional seiner. It is free to turn with the seine as the seine is being set or hauled.

A spooler is provided for bunching the seine and winding it evenly on the drum as it is being hauled. This spooler consists of two vertical rollers, a carriage, and a carriage track. The rollers are about 6" in diameter, 30" high, and 15" apart. They are set in sockets in the carriage, which runs back and forth on the track across the stern of the vessel while the net is being reeled in. When the net is being set, the spoolers are removed from their sockets.

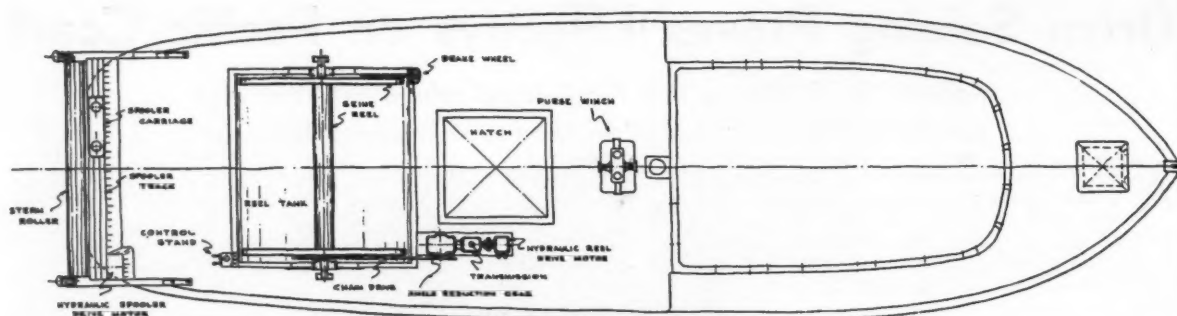
The drum is rotated by means of a mechanical or hydraulic system. In the mechanical system, power is taken either from the winch drive or directly from the main engine by means of gears and shafting to a truck transmission that is mounted just forward of the drum. The transmission provides for variation in speed and for reversing the rotation of the drum. It is coupled to a differential or angle reduction gear that drives the drum by means of a chain and sprocket.

The hydraulic system utilizes a hydraulic pump mounted on the main engine and a hydraulic motor located near the drum. A gear transmission may or may not be used between the drum and the hydraulic motor. The spooler may be driven by means of a hydraulic, mechanical, or electrical system.

For use in drum seining, the seine must be hung so that the lead line is nearly the same length as the cork line. The common practice is to hang 11 fathoms of web to 10 fathoms of cork line and 9½ fathoms of lead line. Some fishermen feel that a completely "square" hanging, with lead and cork lines of equal length, would be better.

If the lead line is 1/10 shorter than the cork line, as in the conventional seine, excessive strain is put on the lead line when it is being set or hauled, which may cause it to part. The seines for drum operation are 250 to 300 fathoms long, and are made up of 3 strips of 4¼" mesh (stretched measure) of cotton webbing, each strip 100 meshes deep.

(Continued on next page)



Deck plan of typical drum seiner, prepared by Marine Construction & Design Co., Seattle, Wash., and showing essential components of gear.

Fewer Crew Members Required

The chief advantages of the drum seining method are that it reduces the number of crew members required to operate the boat; it allows a set to be made in much less time; and the net is hauled by power so that much less labor is required by the fishermen. A crew of 5 men is used on the drum seiner, as compared with a crew of 9 on the conventional type seiner. Since fishing is done on a share basis, this means each fisherman and the boat owner receives a proportionately larger share.

Individual sets are completed in as little as 40 minutes, making possible up to 20 sets per day, a great increase over the 8 to 10 per day possible with conventional gear. These two factors can, of course, result in more money for the drum-seine crews and operators. In addition, the work is easier.

Instead of 7 or 8 fishermen pulling 250 or more fathoms of seine out of the water and stacking it on the turntable each time a set is completed, one man operates two levers controlling the rotation of the drum and the position of the spooler. Power from the main engine does all the work of rolling up the seine in proper order for making a new set.

Another advantage of drum seiners, or at least those with wells, is that the seine can be easily treated with salt or bluestone solution by filling the well with the solution and rotating the net in it.

Method of Operation

The setting and hauling of the seine, similar in many respects to conventional purse seining, is as follows:

1. The fishing area is searched, with the seine skiff in tow. The fish-bag end of the seine is secured to the skiff.
2. When fish are located, the skiff is released, the net starts to unwind from the drum.



The purse rings being pulled off the clothespin by their bridles, one by one. They go back over the roller and on to the drum along with the purse line and the other parts of the seine.

3. The seine is paid out in nearly a straight line until most of the net is in the water. It is then towed into a U shape by the skiff and the vessel running parallel courses into the tidal flow or toward the area where the fish are believed to be. The net is towed for several minutes in this manner before it is closed.

4. The net is closed and the running line and purse line are passed from the skiff to the boat. The skiff is then taken around to the opposite side of the boat and is used to tow the boat away from the seine. (This towing is done to prevent the seine from bunching up under the boat and possibly becoming fouled in the propeller.)

5. The bunt end of the net is pursed, and the wing end of the net is started onto the drum immediately after the circle is closed.

6. Pursing is continued until the purse rings are drawn up to the davit, at which time they are threaded onto a device called a "clothespin" and are then hoisted to deck level.

7. Reeling in the seine is continued, with the seine coming in over the stern and the purse rings being pulled off the clothespin by their bridles.

8. As on the conventional seiners, the fish are either brailled or are dumped on deck as the fish-bag end is pulled aboard.

9. The remainder of the net is rolled up on the drum and is now ready for a new set.

Conversion of Vessels for Drum Seining

Not all purse seiners can be converted to drum seining. The vessel must be of suitable design. In converting a seiner to drum operation, the first factor which the owner must consider is stability. If the beam is broad enough and the boat stable enough, the reel may be mounted above deck. If not, a well must be built in the afterdeck. The drum is installed in this well so that about one-third of the diameter of the reel is below the deck level, thus lowering the center of gravity. When the well is installed, adequate provision must be made for strengthening the deck. Otherwise, the vessel might be greatly weakened, since it is necessary to cut the deck open almost from gunwale to gunwale.

It is quite possible that in the near future, new purse seiners will be designed and built especially for drum seining. It appears, however, that most of those in operation next year will be converted from the conventional purse-seine type.

As in all new developments, the first models have had numerous sources of trouble which needed to be worked out. Many of the problems have been solved; others will be also as more experience with the method is gained. For use in other fisheries which require that the seine net be quickly set in a complete circle, two possible improvements have been suggested: (1) a swivel arrangement on the entire drum installation, or (2) the use of a vertical drum in place of the horizontal drum. The drum seiner of the future will undoubtedly have many improvements over the present, and should gradually evolve into an even more efficient unit.

Fish Sticks in Spotlight at Cleveland Convention

National Fisheries Institute also discusses the freezing of fish aboard ship and jurisdiction over high seas fisheries

DEVELOPMENT of fish sticks has created an entirely new market for fishery products and stepped up the frequency of fish usage in the home, members of the National Fisheries Institute were told at their ninth annual convention in Cleveland, Ohio. Nearly 1,000 representatives of the fishing industry, including fleet owners, packers, brokers, processors and distributors attended the meeting, held May 2-5 at the Hotel Cleveland. The group elected Emmett M. Concannon of W. M. Walker, Inc., Chicago, Ill., as their new president. The retiring president of the Institute is Frederick M. Bundy, of Gorton-Pew Fisheries Co., Ltd., Gloucester, Mass., who now becomes chairman of the Board of Directors.

In addition to fisheries men from the United States, representatives of Canada, Mexico, Norway, Iceland, Holland and Denmark also were present at the NFI convention. The organization re-elected Frank W. Wilkisson of Frank W. Wilkisson, Inc., New York City, as its treasurer. C. Miles Reinke of Reinke & Amende, Inc., Los Angeles, was chosen secretary.

The six regions of NFI elected new vice-presidents, who are as follows: Region 1—Herbert N. Stevens, General Foods Corp., Birds Eye Division, Boston, Mass.; Region 2—Charles L. Woodfield, Woodfield Fish & Oyster Co., Galesville, Md.; Region 3—T. H. Shepard, Jr., George W. Schulman & Co., New Orleans, La.; Region 4—Gilbert J. Kuhn, Marine Products Co., San Diego, Calif.; Region 5—W. B. Hall, Booth Fisheries Corp., Seattle, Wash.; and Region 6—Chas. Salasnek, Salasnek Fisheries, Detroit.

C. Roy Kratzer of Cleveland, Ohio, was chairman of the Convention Committee, while Mrs. Karl Envoldsen was head of the Ladies Reception Committee. The 1955 convention will be held in New Orleans, La. April 22-27.

Fish Stick Panel

Industry representatives, appearing on a special fish stick panel at the convention's first general session, agreed



Frederick M. Bundy (right) of Gloucester, Mass., retiring president of the National Fisheries Institute, congratulates the new president, Emmett N. Concannon, Chicago. Mr. Bundy becomes chairman of the Board of Directors.

that popularity of the new item among consumers has caused processors to increase labor staffs and revise production schedules. Development of fish sticks has been credited with creating 500 new jobs at Gloucester, Mass., and the packing season there has been increased from 7 to 12 months.

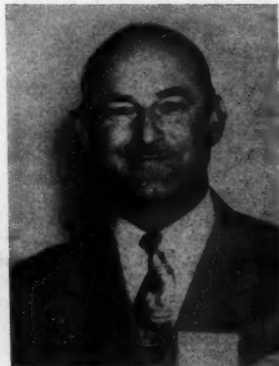
On the market commercially only since last July, fish sticks—square pieces of boned, breaded and pre-cooked or fresh frozen fish of numerous varieties—have been labeled the "hottest" fish item developed in years. Over seven million pounds were sold in 1953, and sales have continued to skyrocket during the first three months of 1954 to a point where they equal total sales in 1953, members of the panel told the convention. Moreover, sales of fish sticks do not appear to be taking away from sales of fillets and other fresh and frozen items.

"We have witnessed a revolution in the fisheries industry during the past year with the marketing of fish sticks on a commercial basis," declared Herbert N. Stevens, Birds Eye Division of General Foods Corp., Boston, Mass., who acted as chairman of the session. "Two factors appear to be evident about this new item: first, it is creating an entirely new market for fisheries products, and second, it is encouraging more frequent use of fish in the home.

"In a typical market during a recent three-month period, our own Birds Eye fish sticks sold nearly twice the volume of Birds Eye frozen strawberries; almost five times as much as asparagus spears; over twice as much as French green beans; nearly three times cut green beans; three and one-half times as much as wax beans and one-half as much as peas.

"The fisheries industry has in fish sticks, we believe, an item which is almost certain to increase total consumption of our products."

Mrs. Alexander Burns, Cleveland housewife, told of the consumer's attitude toward fish sticks, listing convenience and time-saving in preparation, economy and



Four of the National Fisheries Institute's new vice-presidents. From left to right: W. B. Hall, Seattle, Wash.; Herbert N. Stevens, Boston, Mass.; Charles L. Woodfield, Galesville, Md.; and T. H. Shepard, Jr., New Orleans, La.



Some of the new West Coast directors of the National Fisheries Institute. From left to right are: T. Neil Taylor, Oakland, Calif.; Al Levy, San Francisco, Calif.; Meyer Bornstein, Bellingham, Wash.; and Douglas Hager, Astoria, Ore.

flavor, as elements which have made the product appealing. She told of how her children took readily to fish sticks served as "fishburgers" and urged the industry to give more attention to youth as a market for the product.

Mrs. Burns called upon the fish business to insist on high quality, saying the housewife is willing to try an item but will not buy again if she is disappointed in quality. She also suggested identification of the fish variety in the sticks, noting that some brands do not clearly state the type.

Moulded fish blocks are the foundation of the fish stick business, L. T. Hopkinson, Boston, Mass., representing Atlantic Coast Fisheries, reported. Recounting history of research which resulted in the present fish sticks, Mr. Hopkinson said the first fish blocks were made back in 1925 by Clarence Birdseye, pioneer in frozen products. About the same time, a moulded fish steak was produced but ran into serious problems of dehydration. Twenty years went by before fish blocks were attempted again and in 1948, the block was sawed into consumer portions for the first time. Only in the last three years, however, has research on sticks been perfected to the point where marketing on a mass basis was deemed wise.

E. A. Ruthford, San Juan Fishing and Packing Co., Seattle, Wash., reported that West Coast processing companies are inclined to the fresh frozen stick rather than the pre-cooked, breaded and frozen product. He said firms in this section feel sticks offer unusual opportunities for marketing salmon and halibut, fish products largely produced in the northwest.

John N. Fulham of Fulham Brothers, Boston, Mass., emphasized the need for developing new marketing techniques for fish sticks; E. P. McFee, Gorton-Pew Fisheries Co., Ltd., Gloucester, Mass., pointed out the need for continued research; E. J. Pizek, Mrs. Paul's Kitchen, Philadelphia, Pa., told of the requirement of uniform quality and better packaging, and William Frasure, Wrigley Stores, Detroit, Mich., spoke of the need for more distinct identification of variety of fish on the package.

Freezing Fish at Sea

A five-year experimental program conducted by the Fish & Wildlife Service indicates there would be distinct advantages if fishing boats were equipped to freeze fish as soon as caught, Arnie J. Suomela, assistant director of the Service, reported. The government fisheries expert pointed out that boats equipped with deep-freeze equipment would be able to stay out as long as necessary to catch a full cargo. At present, the time a boat may stay out is limited, because iced fish must be brought back to shore freezing plants before the quality is affected.

With all boats returning fully-loaded, Suomela said, labor costs ashore would be reduced because a steady supply of fish would be available for processing. Processors often lose money today, he commented, because they maintain full labor staffs but may not always have fully-loaded fishing boats arriving to keep them busy.

Suomela also said that the installation of deep-freeze equipment aboard the trawlers would cut down the work required of fishermen while at sea. At present the fishermen must clean the fish before they are iced; with deep-freeze equipment, they would instantly freeze the whole fish, and the entire cleaning and filleting process could be done ashore. Mr. Suomela expressed the opinion that the value of the catch would be increased by freezing aboard ship, because many parts of the fish now thrown overboard could be preserved for use in by-products and pharmaceuticals.

Mr. Suomela said that while no commercial fleets have yet installed deep-freeze equipment, the industry is studying the experimental program with great interest. He declared that installation of quick-freeze equipment would be expensive, but said all indications are that the added profits would more than off-balance the initial cost.

Panel Discusses Conservation

The need for "preventing disaster before disaster strikes" was pointed up by a special panel of government fishery experts. The panel, discussing the subject of "Government and Fisheries", was composed of Congressman Thor C. Tollefson of Washington, acting chairman of the House Merchant Marine and Fisheries Committee; Arnie J. Suomela, assistant director of the Fish and Wildlife Service, and William C. Herrington, special assistant for fisheries and wildlife to the Under-secretary of State. Moderator of the panel was Arthur B. Jarrell of Jarrell & Rea, Pittsburgh, Pa.

Pointing out that "everyone gets excited about a resource after a disaster has occurred," Mr. Suomela cited as examples the sharp decline in the catch of haddock in 1920, the disappearance of the Pacific sardine in 1947, and the more recent invasion of Lakes Huron, Superior and Michigan by the sea lamprey, a parasite which destroys fish. Special research programs have solved or are solving problems such as these, he said, but he told the fishing industry representatives that increased research could either prevent such situations, or warn the fishing industry of their probable occurrence.

Congressman Tollefson declared that while there are farm surpluses today, the time is not too far distant when our increasing population will force us to depend more and more on the ocean fishing grounds for food. "We have tremendous food resources right off our shores," he said. "We must be sure to prevent these natural resources from being depleted."

Mr. Herrington reviewed for the delegates the steps being taken on the international scene to "protect the productivity" of ocean fisheries for all countries. He said a treaty was near between Canada and the United States for protection and rejuvenation of the Great Lakes fisheries, and disclosed that the United States has considered asking Mexico to join in a similar treaty aimed at protecting the shrimp resources.

Herrington pointed out that this country and the South

American countries would meet in 1955 to discuss the establishment of mutual territorial waters limits, adding that it is our belief that fisheries resources can best be protected through research and international treaties, rather than by tightening the territorial waters limitations.

Opportunities for Increasing Fish Sales

"New Fields to Conquer" was the subject of the keynote speech, which was made by Ralph S. Damon, president of Trans World Airlines. He said the fishing industry and the airline industry—America's oldest business and one of the nation's youngest—both are facing up to a bright future in which there are new horizons, new markets and new fields to conquer. "Both of us must use imagination, daring and resourcefulness if we are to stand out in today's tough competition," he said.

Mr. Damon added that ideas are needed today—ideas to build sales and service. He pointed out that his own airline, Trans World, had developed business through the institution of air tourist fares, family fare plans, group tours, mobile ticket offices and appeals to specific groups.

"Out of ideas come new markets, and out of markets, new sales," he said. "Selling is the way back to a free economy, and there never was a better opportunity for selling than the one which confronts all of us now."

Ways in which the National Fisheries Institute has been promoting fish and shellfish were illustrated in a slide presentation by Murray Wheeler, director of public relations for the organization. Publicity has been received by the fishing industry through newspapers, magazines, radio, television and other mediums.

Jurisdiction Over High Seas Fisheries

In a resolution unanimously adopted at the convention, fishing industry representatives pointed out the need for legislation containing a "clear statement of positive policy" with respect to jurisdiction over high seas fisheries. Purpose of the requested legislation would be a re-statement by the United States of the principles of international law with respect to fishing on the high seas. The provisions of international law have not been reviewed for many years, industry leaders said, and added they felt a statement is necessary at this time to protect both our fishermen and the resources of the oceans.

Under terms of the proposed legislation, fishermen operating under provisions of United States regulations would be reimbursed by this government if they were interfered with by any other country. Purpose of this would be to protect the economic interest of individual fishermen while the two countries were reaching a mutual understanding with respect to fishing regulations.



C. Miles Reinke (left) of Los Angeles, Calif., new secretary of the National Fisheries Institute; and Frank W. Wilkisson, New York City, who was re-elected treasurer.

Several additional species of fish were included in this year's fish cutting and judging, there being a total of 182 samples. Frozen breaded shrimp was examined at the Massachusetts Institute of Technology's Food Laboratory. Besides the usual samples of green headless shrimp, cod, had-dock and ocean perch fillets, other fish varieties and products judged for quality and attractiveness included sole, flounder and Pacific rockfish fillets, halibut and salmon steaks and fish sticks.

Of the new products judged this year, fish sticks scored very high for an average of 92.17 points out of a possible 100. Salmon and halibut steaks averaged 85.2 and 73.1 points respectively, flounder fillets 71.7, sole fillets 82 and rockfish fillets 76.

Lloyd Turnacli of Sacramento, Calif. served as chairman of a workshop which considered fresh fish industry problems. A report on an examination of the trend of the fresh fish industry, its past, present and future, was given by A. W. Anderson, chief of the Service's Branch of Commercial Fisheries. At the conclusion of the meeting, a motion was passed requesting the new NFI president to appoint a fresh fish industry committee, to be chosen from among the six regions.

The crab meat workshop was presided over by Clifford Byrd of Crisfield, Maryland, and a number of industry representatives from the Gulf of Mexico area and the Atlantic Coast were in attendance. The proposed voluntary code for crab meat was discussed, and those present from the Gulf expressed the hope that the plan would be extended to that area as soon as practical.

A workshop discussion was held on fish sticks with Arthur Thurston serving as temporary chairman. Between 50 and 60 industry members were present, and were unanimous in their decision that steps should be taken by the fish stick industry itself to protect the progress that is being made. It was indicated that any action should be taken through the National Fisheries Institute on a voluntary basis and not through government controls.

A fish stick committee was appointed, consisting of Herbert Stevens, General Foods Corp., Birds Eye Division, Boston, Mass.; Robert Kelley, Modern Food Service, Louisville; William Moseley, Santa Barbara Frozen Foods, Santa Barbara, Calif.; and E. J. Pizek, Mrs. Paul's Kitchen, Philadelphia, Pa.

The breaded shrimp workshop conducted by Karl Envoldsen of Cleveland, Ohio, chairman of the NFI Quality Committee, was attended by over 30 industry people. It was generally agreed that steps should be taken to poll the breaded shrimp industry again. If a sizable majority concurs with the Tentative Breeding Standards suggested last year, then NFI will endeavor to have these standards established by the Food and Drug Administration as the "law of the land." It was brought out that, since the Food and Drug Administration is not in a position to determine a specific breeding content, it might be possible to have another government agency make a house-to-house survey to arrive at such a figure.

By-Products Meeting

Processors, dealers, feed manufacturers and scientists were present at the open general session of the By-Products Division. Speakers included Dr. Roland M. Bethke of Ralston Purina Co., Dr. Gerald F. Combs of the University



Arnie J. Suomela, assistant director of the Fish and Wildlife Service, speaking at the National Fisheries Institute convention.



Quality meeting at the National Fisheries Institute convention, showing four of the judges: From left to right: L. W. Strasburger, Envoldsen Shrimp Inc., New Orleans, La.; R. M. Sloan, R. M. Sloan Co., Los Angeles, Calif.; L. R. Besore, Fishermen's Federation, Chicago, Ill.; and Philip V. Bright, Bright Brokerage, Chicago.

of Maryland, and Arnie J. Suomela, assistant director of the Fish and Wildlife Service. These three men brought out the values expected from fishery products, and at the same time warned the industry that it must never fall behind in its search for improvements in products, processing methods, and research.

Officers of the Fish Meal, Oil and By-Products Division for the 1954-55 year are as follows: Chairman, Sidney L. Feener, Jr., Birds Eye Division, General Foods Corp., Woburn, Mass.; vice-chairman, H. R. Humphreys, Jr., Standard Products Co., Inc., White Stone, Va.; secretary, Herbert Porch, Maine Marine Products, Inc., Portland, Me.

The Executive Committee of the By-Products Division includes the officers and Thomas Barber, J. Howard Smith Co., Port Monmouth, N. J.; Raymond L. Haynie, Jr., Reedville Oil & Guano Co., Reedville, Va.; Harvey W. Smith, Fish Meal Co., Beaufort, N. C.; Jack T. Styron, Louisiana Menhaden Co., Lake Charles, La.; George R. Wallace, Wallace Fisheries Co., Morehead City, N. C.; C. W. Whitmoyer, Whitmoyer Laboratories, Inc., Myerstown, Pa.; and A. W. Wilde, Alaska Reduction, Inc., Seattle, Wash.

Special Awards and Honors

O. L. Carr, 73-year-old president of the Mid-Central Fish Co., Kansas City, Mo., received the 1954 Fisheries Service Award of the National Fisheries Institute. The award is made annually to an industry leader who has an outstanding record of service to the fish business. Mr. Carr, a veteran of 50 years in the fish business, now becomes the Institute's tenth honorary life member.

The highlight of the annual Old Timers Banquet was the designation of Harry L. Claxton of R. W. Claxton, Inc., Washington, D. C., as "Kingfish of 1954." He was presented with an electric lucite clock decorated with an underwater motif.

Charles W. Triggs, a pioneer Mid-western fish broker, was honored on his 80th birthday May 5 at a testimonial breakfast. Owner of Triggs Brokerage, Chicago, Ill. for the last 24 years, Mr. Triggs has worked constantly to improve the quality of seafood available to the consumer. He has been in the seafood business all of his life.

Regional Directors

Directors who will serve on the new Executive Committee are as follows: Arthur N. Thurston, Gorton-Pew Fisheries Co., Ltd., Gloucester, Mass.; Raymond L. Haynie, Jr., Reedville Oil & Guano Co., Reedville, Va.; Harry Sahlman, Sahlman Seafoods, Fernandina, Fla.; Al Levy, Washington Fish & Oyster Co., San Francisco, Calif.; E. A. Ruthford, San Juan Fishing & Packing Co., Seattle, Wash.; Sidney I. Greene, Penguin Frozen Foods, Chicago, Ill.

Other directors for Region 1 are: James S. Carlson, Baker, Boies & Watson Co., Boston, Mass.; L. Vernon Drape, Louis A. Drape, Inc., Fall River, Mass.; Sidney K. Jones, Booth Fisheries Corp., Boston, Mass.; Herbert Porch, Maine Marine Products, Inc., Portland, Me.; Capt. John G. Murley, Fairhaven, Mass.; Capt. A. J. Pedersen, Portland Fish Co., Portland, Me.; Leonard Linquata, Progressive Fish Wharf, Gloucester, Mass.; Sidney L. Feener, Jr., General Foods Corp., Woburn, Mass.

Directors for Region 2 include: Henry H. Goodrich,

New England Fish Co., New York, N. Y.; August Strauss, Galilee Fish Co., New York, N. Y.; Walter J. Lehman, Allen Kirkpatrick & Co., Rehoboth, Del.; W. Jackson Catt, W. Jackson Catt Co., Buffalo, N. Y.; H. R. Humphreys, Jr., Standard Products Co., Inc., White Stone, Va.; Henry L. Claxton, R. W. Claxton, Inc., Washington, D. C.; Harvey Smith, J. Howard Smith Co., Port Monmouth, N. J.

Directors for Region 3 are: Manuel Versaggi, Versaggi Shrimp Co., Tampa, Fla.; J. Roselle Clegg, Clegg Shrimp Co., Brownsville, Tex.; Newton Smith, Riverside Seafoods, Inc., Berwick, La.; Arthur Gonzales, Star Fish & Oyster Co., Mobile, Ala.; Francis W. Taylor, Warren Fish Co., Pensacola, Fla.; Virgil Versaggi, Versaggi Shrimp Co., Brownsville, Tex.; John Santos, Patterson Shrimp Co., Patterson, La.

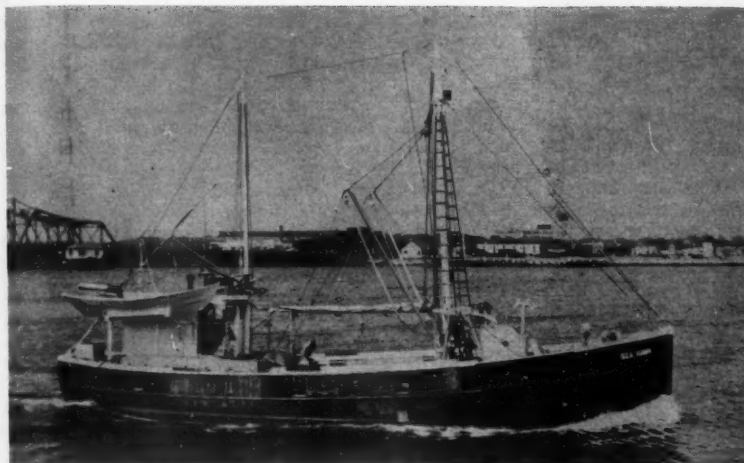
Directors for Region 4 include: George Castignola, George V. Castignola Co., Santa Barbara, Calif.; Louis Vitali, Los Angeles Smoking & Curing Co., Los Angeles, Calif.; Emanuel Stein, Stein Fish Co., Pueblo, Colo.; Joseph Merlo, Koulouris & Casaretto Co., Los Angeles, Calif.; T. Neil Taylor, Norfish Sales Co., Oakland, Calif.; Art Mendonca, F. E. Booth Co., San Francisco, Calif.; Lloyd Turnacliff, Meredith Fish Co., Sacramento, Calif.

Directors for Region 5 are: Arthur Wilde, Alaska Reduction, Inc., Seattle, Wash.; John McCallum, McCallum & Legaz, Seattle, Wash.; Douglas Hager, New England Fish Co. of Oregon, Astoria, Ore.; Peter A. Formuzis, Consolidated Seafoods Co., Tacoma, Wash.; Norman Weitkamp, Washington Fish & Oyster Co., Seattle, Wash.; Meyer Bornstein, Bornstein Seafoods, Inc., Bellingham, Wash.; Palmer Olson, New England Fish Co., Seattle, Wash.

Directors for Region 6 include: Frank J. Girse, Meletio Sea Food Co., St. Louis, Mo.; R. G. Kentnor, Booth Fisheries Corp., Chicago, Ill.; Olaf R. Juhl, Olsen Fish Co., Minneapolis, Minn.; Alfred V. Johnson, A. S. Johnson Fish Co., Duluth, Minn.; E. S. Risley, Davenport Fish Co., Davenport, Iowa; John J. Comella, Euclid Fish Co., Cleveland, Ohio; R. G. Walker, W. M. Walker, Inc., Chicago, Ill.



Chairman Raymond L. Haynie, Jr. (right) of Reedville, Va. introduces the moderator of the by-products panel, Ralph C. Holder, technical consultant to the NFI By-Products Division.



Capt. William Main of New Bedford, Mass., and his dragger "Sea Hawk", one of the boats which recently returned from shrimping in the South.

New England Shrimp Research Program Needed

Survey of extent and location of Northern shrimp beds would encourage exploitation of resource by draggers back from South

WITH the return of a number of New England draggers which migrated South during the Winter to engage in the shrimp industry, there has been much interest in the possibility of developing a shrimp fishery in Northern waters. It is believed that a substantial industry might be established if a survey could be made to discover the extent and location of New England shrimp beds.

Two New Bedford, Mass. skippers who have rejoined the New England fleet after shrimping in Florida this Winter, met with State and Federal officials in Boston recently to discuss the matter of developing a Northern shrimp fishery. Captains William Main and Eric Besso of the draggers *Sea Hawk* and *Eugene and Rose*, respectively, told officials their vessels still carry shrimp fishing gear used in the South, and it would be no problem to convert from their present groundfish dragging operations if the shrimp aspects were favorable. The two men said they would undertake commercial work if more recent information on location and abundance of shrimp were available.

Francis W. Sargent, director of the Massachusetts Division of Marine Fisheries, disclosed at the meeting that previous surveys have shown that shrimp are abundant off the New England coast. Also present at the conference were Joseph F. Puncochar, chief of the Fish and Wildlife Service laboratory, East Boston, Mass., and John Murray of the Service's Portland, Me. office. These men, as well as Mr. Sargent, expressed hope for developing the industry through research.

If funds could be provided by passage of the Saltonstall-Kennedy bill, which is now before the U. S. House of Representatives, \$3,000,000 could be available for general research purposes by July 1, it was related. Puncochar said he hoped a share of this amount could be earmarked for a shrimp research program.

Southern Shrimping Falls Off

The Southern shrimp industry which was so enticing to Northern fishermen, particularly New Bedford, Mass. owners and captains, has fallen off in the past two months and many of the boats are back fishing out of New Bedford. Others feeling the decline in the Florida market are migrating west along the Alabama, Louisiana and Texas coasts in hopes of finding better shrimp-supplied grounds.

Capt. William Main of New Bedford, owner of the *Sea Hawk*, was one of the first to return. He left the South in March after three months of shrimping which he considered a vacation compared to the New England fishing to which he was accustomed. But with the advent of warmer weather and the assurance of good catches, he is glad to be back in New Bedford.

The one factor that deeply impressed Capt. Main and other New Bedford skippers about the South was the fairness and co-operation of the dealers. The grading and weighing of the shrimp catches won great favor for the Southern dealers by New Bedford men. Capt. Francis "Sharkey" Folger, skipper of the *Dauntless* which returned in May, spoke in favor of the square deal given the boats by Southern buyers.

Capt. Main described shrimping as a sport compared to fishing in New England. "We shrimped only at night and anchored during the day," he explained, "while up here we have to drag 24 hours a day in all kinds of weather, most of it bad." Profit shares were greater in the South, as his vessel required only two crewmen besides himself, while he has a six-man crew for New England fishing.

Insurance rates are approximately three times higher per man in New England than in Florida, Capt. Main pointed out, and boat repairs are much lower in the South. Fishing gear doesn't take the beating in Southern waters that it does off the rocky coasts of New England, another fisherman added.

Some Boats too Large

Some of the New England boats proved too large for shrimping. Among these was Capt. Jens Larsen's 88' *Gannet*. Asked if the Southerners resented the New Englanders, several of the New Bedford skippers said that the shrimp fishermen were not at all resentful and always were willing to help and advise the newcomers.

Capt. Rudolph B. Matland, owner of the *Dauntless* and a veteran fishing captain, has made three trips to Florida since the first of the year. He says that shrimping conditions have been steadily declining since that time, and depletion of the supply is causing New Bedford boats to either abandon the venture or move West in hopes of obtaining better catches. Only three boats from New Bedford were still fishing out of Fort Myers, Fla. early in May, as compared to 30 vessels from New Bedford op-

erating out of that port and Tampa and Key West two months before.

According to John F. Linehan, business manager of the Seafood Producers Association of New Bedford, Mass., only 30 of the more than 40 New Bedford boats to go South were actually registered in New Bedford. Some habitually operated out of New Bedford, he explained, and still others were inshore draggers that tied up during the Winter months as a rule because their size was not sufficient for Winter weather. He stated that he felt the Southern migration was an adventure on the part of most of the fishermen, and that with the advent of warm weather the boats would return to their home port.

George Snow of the New Bedford office of the Fish and Wildlife Service reports the following New Bedford vessels are back: *Barbara*, *Barracuda*, *Barbara M.*, *Charles E. Beckman*, *Ethel C.*, *Gannet*, *Dauntless*, *Eugene* and *Rose*, *Ivanhoe*, *Rose Marie V.*, *Sea Hawk*, *Smilyn*, *Wanderer* and *Arnold*.

Of the New Bedford fleet which left for the South four vessels have sunk. The 3 & 1 & 1 was run down by a steamer off Texas in April, and the *Rosie II* foundered near Florida after a seam in her stern opened. The *Three Pals* which was sold to Brownsville, Texas interests, sank early in May when she ran on a reef and broke up. The fourth sinking involved the *Nantucket* which went to the bottom off Cape Hatteras while en route to Florida. The *Ronald* and *Dorothy*, the fifth Northern boat reported to have gone to the bottom, formerly fished out of Point Judith, R. I.

Results of Early Shrimp Surveys

At the present time main information available on location and abundance of Northern shrimp is contained in a Fish and Wildlife Service report by Leslie W. Scattergood, fishery research biologist. The report includes findings of shrimp surveys made in 1927 and 1938, and the material which follows was excerpted from it.

The fishery along the New England coast for the Northern shrimp had a remarkable development in Maine from 1933 to 1945, but after that year the fishery steadily declined. Birdseye (1928) mentioned that Gloucester, Mass. draggers had brought in small quantities of New England pink shrimp for several years prior to 1927. Officials of the General Seafoods Corporation became interested in the commercial possibilities of the shrimp and decided to ascertain whether these crustaceans could be obtained in quantity at a reasonable cost.

During June and July 1927, the General Seafoods Corporation chartered successively two 60' boats which dragged small mesh otter trawls in the Gulf of Maine off the New Hampshire and southern Maine coasts. The fishery was confined to the region east of Jeffrey's Ledge and between Boon Island and Thatcher Island. Four trips were made.

In January 1928, another dragger, using General Seafoods Corporation's nets, caught as high as 2,000 and 3,000 lbs. per day on mud bottom at 35 to 90 fathoms in the area between Boon Island and Thatcher Island. Birdseye believed that the fishing trials indicated that large bodies of shrimps were to be found over a wide area of the Gulf of Maine, but that a great many months of effort and investigation were needed before a dependable supply of shrimps could be guaranteed.

Other Northern Shrimp Surveys

The next development in the history of the Northern shrimp fishery has been given in some detail by Hjort and Ruud (1938) and Bigelow and Schroeder (1939). Johan Hjort, widely known for his founding and promotion of the Norwegian shrimp fishery, was a visitor to this country in 1936, and made a brief survey of some of the shrimping areas in the Gulf of Maine. With the cooperation of the Woods Hole (Mass.) Oceanographic Institution, the research ship *Atlantis* was used for this exploratory investigation in August 1936.

The *Atlantis* found shrimp to be most abundant in the same general area where the General Seafoods' boats had made their best hauls. Bigelow and Schroeder have made

detailed analyses of the 22 trawl-hauls of the *Atlantis*. They have estimated the shrimp catches (adjusted to a 60-minute tow with an 82' trawl) to be as high as 210 lbs. per hour.

The results of the *Atlantis* trip were encouraging, and the time seemed propitious for a campaign to stimulate the dormant shrimp fishery. Through the co-operative efforts of Hjort, the Bureau of Fisheries, the Fishermen's Relief Corporation of Portland, Me., and the Federated Fishing Boats of New England and New York, Inc., the boat *New Dawn* was outfitted and began to catch shrimp as a practical demonstration that shrimp fishing could be profitably conducted in New England.

Walford prepared a chart of the localities in which the shrimp were caught by the General Seafoods Corporation's boats, the *Atlantis*, the *New Dawn*, and other fishing vessels. This revealed that the four exploratory boats had dragged primarily in depths of over 50 fathoms during the Summer months. These boats did not operate their fishing gear along the coast in the shallower water. However, according to the chart, Winter catches of over 30 lbs. per hour were made by other boats in fairly shallow water between Pemaquid Point (Maine) and Gloucester (Mass.). The fishery later developed along these inshore areas rather than in the deeper water regions, which had received the great part of the investigational efforts.

First Large-Scale Northern Shrimp Fishery

The first large-scale fishery for Northern shrimp began the first quarter of 1938. Shrimp nets were supplied by the Fishermen's Relief Corporation of Portland, Me., and 13 boats began dragging for shrimp and landing their catches at Portland. These boats ranged in length from 46 to 73'.

Incomplete records collected by the local office of the Bureau of Fisheries in 1938 show a total poundage of 12,100 in February, 59,200 in March, and 2,150 in April. Apparently the greatest producer was the *Annie Louise*, a 46' boat, which caught 24,900 lbs. in 15 shrimp-yielding trips. A few daily catches of over 5,000 lbs. were taken.

All trips were of one-day duration and were made primarily off Wood Island, about seven miles southwest of Cape Elizabeth, Me. Several small boats, around 30' in length, also operated in Casco Bay, near Mark Island, and some shrimp also were caught at this time by small boats near Pemaquid Point and New Harbor, Me.

This Winter shrimp fishery in the Portland, Maine region was definitely seasonal. One boat began dragging as early as January 7, but the first shrimp were not brought in until February 11. The last shrimp catch was on April 13, although some dragging was continued until the end of April. The seasonal peak occurred in the middle of March. Fifty-eight percent of the total catch was made in the two-week period March 8-21.

This fishery was dependent upon egg-bearing female shrimp, which accumulated on certain inshore grounds prior to and during the egg-hatching period. As the egg hatching neared completion, the number of shrimp available to the fishermen declined markedly.

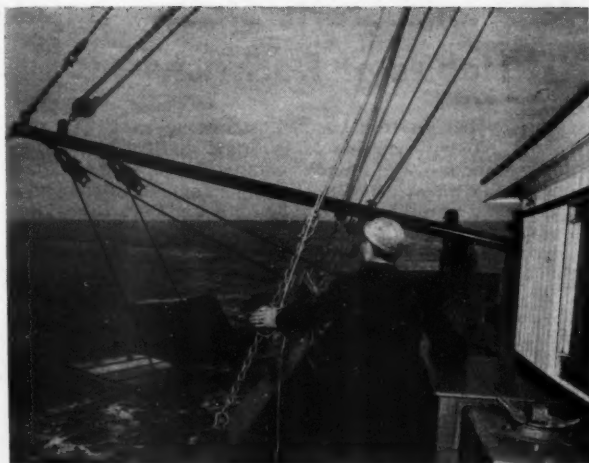
In view of the difficulties encountered in initiating an otter-trawl fishery on relatively unfamiliar bottoms, this first organized attempt could be considered fairly successful. An average value of 7.5¢ per pound was obtained by the fishermen.

Some of the shrimp were sold fresh locally. However, as the available markets were unable to sell large quantities of the new shrimp (which were much smaller than the popular Southern shrimp), most of the Portland landings were frozen for future use. Furthermore, the New England public was familiar with the green-colored Southern shrimp rather than the red-hued Northern species.

Shrimp Explorations During Summer

In anticipation of increased utilization in the future, an attempt was made to learn if the shrimp fishery could be established on a year around basis. The Maine Department of Sea and Shore Fisheries, in cooperation with the

(Continued on page 45)



Lowering net and boards into water from shrimp trawler "Fair Star", owned by C. B. Fairley, Jacksonville, Fla. Built by Diesel Engine Sales Co., Inc., St. Augustine, Fla., the craft is 67' long with 18' beam and 6'6" draft. She is powered by a Caterpillar D337 Diesel, and operates in Campeche Bay on 17-day trips, 750 miles from Tampa.

Florida-Based Boat Studying Sounds Made by Shrimp

Preliminary tests to determine if commercial varieties of shrimp produce any characteristic sounds were carried out recently aboard the Fish & Wildlife Service's research vessel *Pompano* operating out of Key West. One hundred pink shrimp of 25-35 count size were placed in a wooden tank set up on the stern of the vessel where they were kept alive in fresh circulating sea water.

A hydrophone was inserted in the tank with the shrimp at various times of the day and night, but nothing particularly significant was heard on the earphones of the listening equipment. Later on some pieces of chicken liver, chopped fine, were dropped into the tank with the shrimp, which until then had not been fed anything. When the listening equipment was turned on about two hours later numerous clickings, gratings, and sharp rasping sounds were heard. Upon inspecting the tank, many of the shrimp were seen to be feeding on pieces of liver, and it was apparent that the sounds were caused by this feeding activity.

Although the observations to date have been only of a qualitative nature, these tests indicate that there are good possibilities of utilizing the sounds for locating beds of shrimp by means of passive listening devices. A detailed frequency analysis of the shrimp sounds will be made in the near future at the Service's electronics laboratory located at the University of Miami, Coral Gables.

Research Contract Expected to Be Renewed

Renewal of the University of Miami's contract to conduct fisheries research for Florida was expected last month. It is believed the extension will cover a two-year period, permitting stabilization of the long-term program designed to benefit the State's fishing industry.

The marine laboratory does all the salt water fishery research for the Florida state board of conservation. This work includes, among other projects, tagging, life histories and study of population of mullet and spiny lobsters, the location of new shrimp, and an investigation of the red tide. The marine laboratory discovered and named the causative agent of these destructive phenomena in 1947.

Specimens of shrimp and fish are being collected in larval and fish-egg stages to complete wide gaps in scientific knowledge of their life histories. These and many other research programs are being carried on through outside grants at no cost to the state.

New Shrimp Trawler Launched

The *Jean Lafitte*, largest wooden-hulled shrimp trawler ever built in Tampa, was launched on May 16 at Tampa Steamways Corp. The new 73 ft. trawler will join Tampa's growing shrimp fleet.

Built for Jacques Leban, Tampa dairyman, the *Jean Lafitte* is equipped with a 210 hp. Diesel. She was the 12th shrimp trawler launched by the Steamways Corp. since the shrimp fleet has been centered in Tampa.

One of the other trawlers recently completed by the yard, the *Sea Hawk*, now is shrimping out of Freeport, Texas. She is owned by her skipper, Capt. Willie Nardelli, Armin H. Smith, Sr., and Armin H. Smith, Jr. of Tampa, and is powered by a Model WM-1905, 255 hp., 1000 rpm. Wolverine-Waukesha Diesel with Snow-Nabstedt 3:1 reduction gear.

Mississippi Makes Plans for Shrimp Festival at Biloxi

Committees for the annual Biloxi shrimp festival and blessing of the fishing fleet were announced last month by Steve Marinovich. The 1954 event will take place July 30, 31 and August 1. The general chairman is John Mavar, Jr. of the Mavar Shrimp & Oyster Co. The vice chairmen are Frank Barhanovich and Matre P. Pitalo.

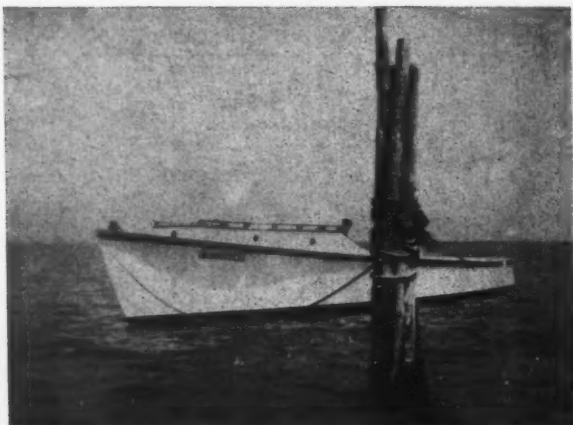
The shrimp boat parade is to be in charge of Peter Kuljis, Matre Gospodonovich, Herron Kennedy, Paul Kovacevich, Tony Mihojevich and Joseph Murray.

"Oregon" Makes Good Yellowfin Tuna Catches

Significant catches of large yellowfin tuna in the Gulf of Mexico were reported in a message from the Fish & Wildlife Service's exploratory fishing vessel *Oregon* on May 19. The vessel, which operates out of Pascagoula, has been fishing with floating long-line gear near the 92nd meridian in the central Gulf and in the Gulf of Campeche to waters off Vera Cruz, Mexico.

Using only experimental quantities of long line, the *Oregon* took tuna on every set in this area of the Gulf. The best catch was six large yellowfin tuna taken on a set of approximately 200 hooks. A few shark and marlin also have been hauled in along with the tuna.

The successful catches indicate a wide distribution of tuna in the western Gulf at this season of the year. It was said that the tuna appeared to be spawning in the Gulf waters.



38'6" commercial fishing boat "Maurice" owned by Maurice Mills of Crocheron, Md., and powered with a 140 hp. gasoline engine with 17 x 10 Columbian propeller. Linen Thread Co. Gold Medal nets are used.

New Jersey Shad Season Best in Three Years

A season of good fishing—the best in three years—was over the middle of last month for Hudson River shad fishermen. Commercial catches have been heavy this year since the season opened in March.

Fluke, flounder, some head fish and quantities of catfish running three and four pounds each, found their way into the large catches of shad. Even rarer, sea horses going to full size of six inches, have been pulled in as far north as the George Washington Bridge. Appearance of the sea horses, normally a deep-sea type for the aquarium, prove that almost everything is swimming in the Hudson this season.

Large Lobster Catch Brought In

About 6,000 lbs. of lobsters were brought in on May 27 by the vessel *Hustler* out of Norfolk, Va., to the Cold Spring Fish & Supply Co. at Wildwood. They were taken in regular fishing nets about 60 miles off Cape May.

The lobster fishing season runs from the end of May to October, and three pot boats are used at the Cold Spring Dock to catch sea bass and lobsters.

Seed Oysters Planted

Thousands of bushels of seed oysters from Virginia are being planted in Delaware Bay as an experiment in an effort to increase the dwindling yield in the Maurice River Cove. A diminishing supply of young oysters in the natural seed beds has been disturbing Port Norris oystermen who operate in this Cove.

The usual May 1 opening of the oyster dredging season in Delaware Bay was postponed two days when an oysterman's union agreed that there would be no dredging on Saturday and Sunday.

Seafood Landings for March

Landings of fish and shellfish at New Jersey ports during March totaled 3,207,144 lbs. compared with 3,700,895 lbs. landed during the corresponding month of the previous year. This represents a decrease of 13 per cent.

In production, scup or porgy led all other species followed by surf clams and fluke. These three items accounted for 50 per cent of the total New Jersey production during the month of March. Cape May County led all others during the month, followed by Atlantic and Ocean Counties.

Maryland Starts Study Of Habits of Rockfish

Spring has set the rockfish spawning in Chesapeake Bay and tributaries and Maryland's study of the fish is getting under way. Patrol boats of the Tidewater Fisheries Department are collecting specimens of the rockfish spawn and employees are tagging some 1,000 fish. Fishermen will be paid \$1 for every tag they return to the Department, with information on how, when and where the fish were caught.

Edgar Hollis, biologist of the Department, is making the rockfish survey to determine their migratory, spawning and other habits. One question fisheries biologists hope will be answered by the study is whether catching of overweight rock hurts productivity of small rock.

Hollis said some rock over the 15-lb. limit will be tagged, but that fishermen who catch these should remove the tag and throw the fish back. If the contention of some that heavy rockfish actually hurt productivity of the young is proved, then the law forbidding catching of rock heavier than 15 lbs. may be removed.

Oyster Production Decreases

Reports indicate that Maryland oyster production dropped several hundred thousand bushels during the 1953-54 season, even though the Winter was mild and open. One of the disappointing aspects of the season was the failure of the plantings made by the Fisheries Commission along the western shore to yield as expected.

Frozen Shrimp in Cans

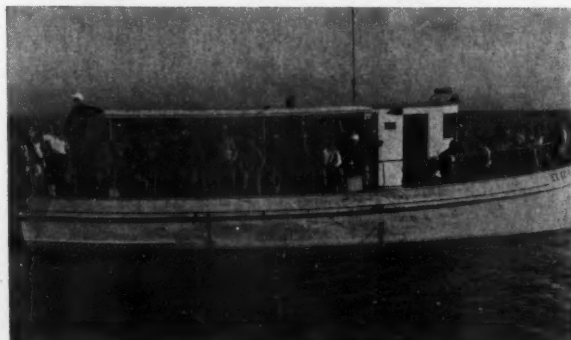
After five years of research John H. Dulany & Son Inc., food processing firm in Fruitland, Md., has introduced frozen ready-to-eat shrimp in cans. Shrimp to be processed are first carefully cleaned, seasoned and cooked. Then they are placed in cans and subjected to a new-type processing. After that, the cans are hermetically-sealed under vacuum and the shrimp is quick-frozen.

Canned frozen shrimp has proved a stand-out for superior quality in tests made over a period of months. It also is claimed to have a much longer freezer life.

Dr. R. V. Truitt Retires

Dr. R. V. Truitt has announced his intention to retire from the position of director, Maryland Department of Research and Education. He was the founder of the Chesapeake Biological Laboratory, Solomons.

Oysters have been the major field of Dr. Truitt's research activities. Largely through his efforts the state in 1927 began planting of shells and seed oysters.



The 42' party fishing boat "Elizabeth B.", which runs out of Atlantic City, N. J. Owned by Capt. Mark Broome, the craft accommodates 45 people. Her engine is an 80 hp. Mack Diesel with 2:1 Twin Disc reduction gear. Other equipment includes Mustad hooks and Raytheon Submarine Signal Fathometer. She is finished with Pettit paint, and uses Gulf fuel and lubricating oil.

Maine Looks for Banner Year In Sardine Industry

According to the Sea & Shore Fisheries Department, it looks like a banner year for the Maine sardine industry. The tiny fish that provide such a big part of the fisheries income along the central and eastern Maine coast have shown up in great numbers as far east as Rockland.

The sardine season opened in Rockland on May 3 with the landing of 825 bushels of herring at the plant of Holmes Packing Corp. by the firm's carrier *Mary Anne*, Capt. Herbert Hicks. The fish were caught off Small Point. Later that day Capt. Sherman Lord landed a load of 175 bushels he had taken aboard in the Boothbay area. The landings started off a season in which there is expected to be a big demand for the Maine pack.

Spotter planes and surface craft are proving a profitable combination for herring fishermen. Such a sea-air group has been operating out of Boothbay Harbor recently. Two brothers, Sheridan and Richard Billings of Stonington, equipped with two fishing vessels, a fleet of dories, two motor tenders and a plane, have established a base at West Harbor while searching out herring schools in Boothbay region waters.

Herring schools, under proper weather conditions, are plainly visible from the air. Thus a spotter in a plane can check the movement of the fish.

The Billings team is reported to have made a small catch of about 400 bushels in Linekin Bay recently, but with improved weather, their catches should climb rapidly. Richard Billings' fishing boat is the *Rita H.*, a Stonington-built craft, and Sheridan Billings has the *Mystery*, which was built in Nova Scotia.

Fishing Boats to Aid Civil Defense

Maine Civil Defense officials are working on plans to press more than 7,000 fishing and pleasure craft into service in the event of a major disaster or enemy attack. They are confident that within a few months they can call on the fishing and lobster fleets for disaster duty.

"Adventure" Joins Summer Cruise Fleet

The *Adventure*, one of the last of the handline vessels to fish from Boston, has joined the Summer cruise fleet and will operate out of Rockland under the command of Dayton Newton. The *Adventure* is 107 ft. long.

Birds Eye Division Personnel Changes

Widespread transfers which will change the Rockland management of General Foods Birds Eye Division have been announced. James Brazier, for the past five years manager of the fillet plant, will return to Gloucester to assume managerial duties there. He will serve as a production superintendent in Gloucester, where the new line of Birds Eye pre-cooked fish sticks is produced.

Carl Jensen, for the past six years manager of the Birds Eye marine basin at Rockland, and in charge of the trawlers of the Birds Eye fleet, will move to Woburn, Mass. He will serve as a production manager at the Aberjona fish reduction plant of the company.

Coming to Rockland as operations manager over both the marine basin and fillet plant will be Roy Wittick of Boston, former marine operations manager for Birds Eye. His position is a new one created by the company.

Succeeding Mr. Brazier will be Raymond D. Graham, former manager of the now closed Boston plant of Birds Eye. His duties will be those of production superintendent of the fillet plant.

John W. Christopher of Boston, former marine operations manager there, will succeed Mr. Jensen as marine superintendent at Rockland.

Robert A. Merchant, former supervisor of fillet plant operations at both Rockland and Gloucester, will be at the Gloucester plant until his retirement next September.

The trawlers *Wave* and *Crest* soon will join the Rock-



30' lobster boat "Robin" on her trial run, during which she made a speed of 18 knots. Built by Rockland Boat Shop for Leslie A. Wilson (inset) of Rockland, Me., she is powered with 130 hp. Chris-Craft gasoline engine with Columbian propeller and stuffing box. The craft is Monel fastened, finished with International paint and uses Westhaver hauler.

land fleet, bringing to nine the number of company vessels working out of the port. These craft comprise the entire Birds Eye trawler fleet.

"Andarte" Changes to Redfishing

The dragger *Andarte*, owned by The Harris Co. of Portland and skippered by Capt. Reuben Doughty, Jr. has changed over from scalloping to redfishing.

McLoon to Have New Tanker

A. C. McLoon & Co. of Rockland, distributors of Shell petroleum products along the Maine coast, has ordered an 80' steel tanker from Blount Marine Corp., Warren, R. I. The new craft will replace the Company's *Narmada*, and is scheduled for delivery in August.

Designed by Preston R. Gladding, naval architect for the shipyard, she will have a beam of 21' and draw an estimated 8' of water. Power will be supplied by a 270 hp. Caterpillar Diesel which will drive her at close to 10 miles an hour. Her tank hold capacity will be between 50 and 60 thousand gallons, and she will be skippered by Capt. Henry Lurvey, who now commands the *Narmada*.

Chipman Joins Trident Packing

Roger Chipman, formerly with Seaboard Packing Co., is now at the Lubec office of Trident Packing Co.

Rockland Groundfish Landings for May

A total of 2,273,000 lbs. of groundfish was landed at Rockland during the month of May. The catch was mainly ocean perch, 2,198,700 lbs. of this variety having been brought in. Also included in production for the month was 2,500 lbs. of haddock and the same amount of scrod.

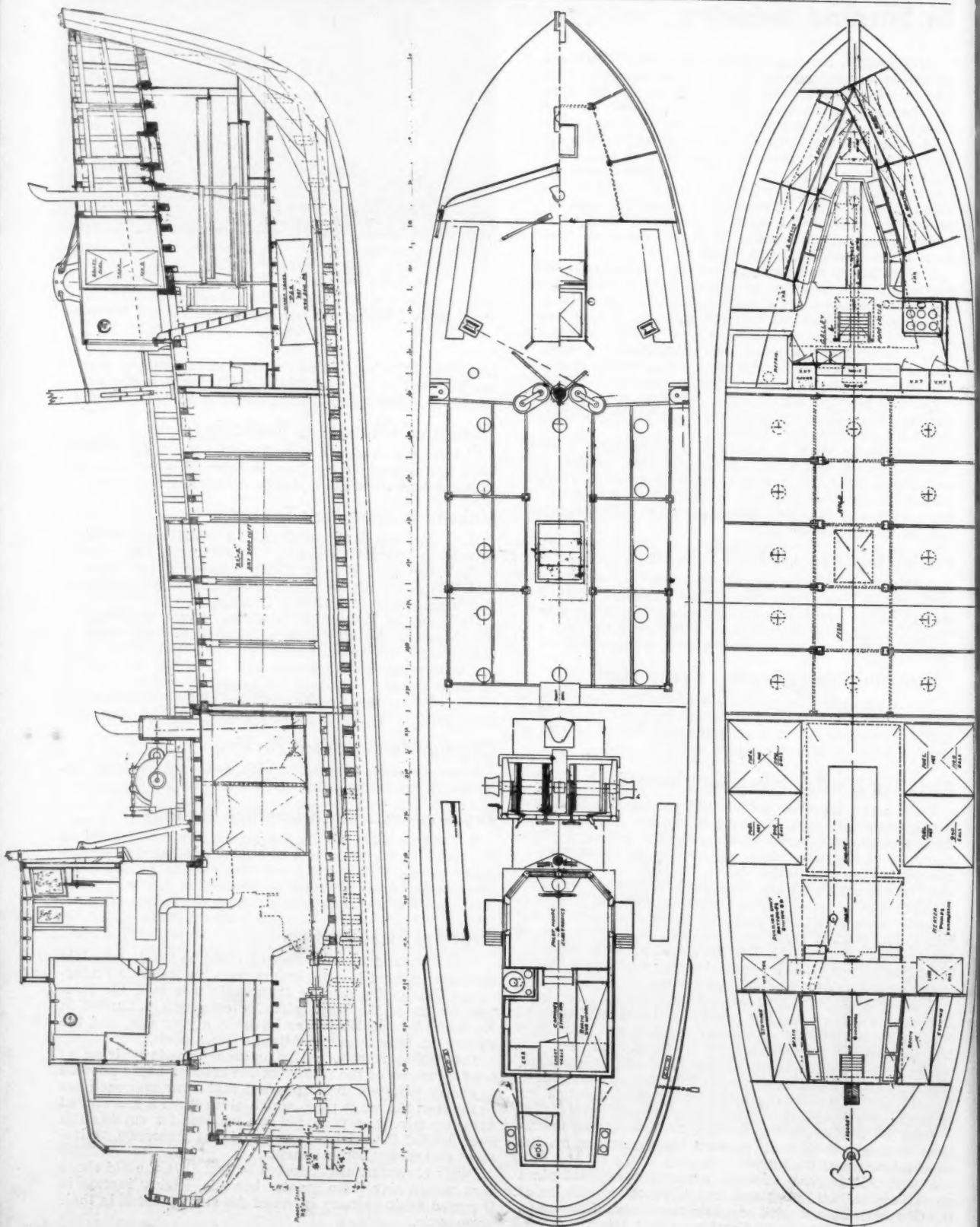
Birds Eye Fleet Tied Up

The Rockland trawler fleet of General Foods was idle the latter part of May on orders from the Atlantic Fishermen's Union. The dispute apparently was over the relative merits of the wage plan for crewmen instituted in Rockland by the Birds Eye Division a year ago, and the share plan long in use in Atlantic Coast ports.

The Union is reported to oppose company hiring of crews, instead of the master of the trawler being allowed to choose his men. It is apparent that some crewmen are in favor of the wage plan, which gives them a guaranteed \$270 per trip. Also provided are bonuses for cuttable fish over 200,000 lbs., sickness and accident insurance, retirement and salary bonus benefits.

Other crewmen are reported to feel that the old share plan would give them greater benefits. Higher income in the good fishing season is one of the strong points in their arguments.

"Mother Frances" Is Outstanding T Wharf Dragger



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WITH two good trips already chalked up to her credit, the new 85' Boston dragger *Mother Frances* has been acclaimed one of the outstanding vessels in the T Wharf fleet. Owned by Capt. Salvatore Passanisi of Somerville, Mass., the dragger hailed for 47,000 lbs. of groundfish from her maiden trip on May 19, followed by a 60,000 lb. catch on her second run landed June 3.

The *Mother Frances* was built by Harvey S. Gamage, Shipbuilder, at South Bristol, Maine, from new designs of naval architect Dwight S. Simpson, Newton, Mass. She has exceptionally good lines, and is laid out and equipped for efficient operation. Commodious quarters are provided for the crew, which numbers eight including the skipper.

The new dragger represents a refinement of previous designs, and she is somewhat wider than the usual boats of her length. Based on tank tests with other models, the increase in beam is expected to give better performance. Several of the ideas for improved design presented at last year's FAO International Fishing Boat Congress have been incorporated in the *Mother Frances*.

Specifications of the vessel show a beam of 19'7", depth of 9'7" and draft of 9'8". Tonnage is 103 gross and 70 net, and the fish hold contains approximately 3,000 cubic feet. The oak keel is sided 10", sawn and moulded frames are 3½" double oak on 18" centers, planking is 2½" oak, and decking is 2¾" white pine. The fish hold bulkheads are insulated with Fiberglas. Pettit paints were used on topsides and interior, and International copper on the bottom.

A special feature of the dragger's navigating equipment is the Raytheon Mariners Pathfinder, Model 1500 radar, which will enable her to steam to and from the fishing grounds without delay. The unit clearly reveals buoys, other vessels and the shoreline so that safe navigation is possible in the thickest weather. The vessel also has a Raytheon Model DE-102 Fathometer echo depth sounder, 75-watt radio telephone, direction finder, loran, and Hathaway 3.44:1 reduction steerer with 40" Maier wheel.

The new dragger has a speed in excess of 9 knots, with propulsion power supplied by a 6 cylinder, 9 x 10½, 300 bhp. 750 rpm., Model 45 Atlas Diesel. The engine has a Western 2:1 reduction gear with built-in, air controlled Western sailing clutch. It swings a 60 x 38, 3-blade Columbian propeller, on a 4½" Tobin Bronze shaft fitted with Goodrich Cutless rubber stern bearing and Hathaway flax-packed stuffing box. The Kennebronze rudder port was fabricated by J. F. Hodgkins Co.

Auxiliary power is furnished by a Model EHS, FR-2-10110 Deseco-Lister Diesel unit from Diesel Engine Sales & Engineering Corp. It comprises a 16 hp. Lister Diesel, 10 kw., 115-volt Safety Car generator, No. 325 Quincy air compressor and No. 130 Marine Products pump. The vessel carries a set of Surrrette HHG-21, 115-volt batteries, and has a Safety Car S150E voltage regulator. Welded steel fuel tanks have a capacity of 4,000 gallons, and a 600-gallon fresh water tank is located under the fo'c's'le.

The fo'c's'le, which is trimmed in mahogany, has eight built-in berths, hardwood mess table, built-in ice refrigerator, stainless steel sink with hand pump, and #450 oil-burning Shipmate galley range.



The new 85' Boston dragger "Mother Frances", owned by Capt. Salvatore Passanisi. Below: her pilot house and Raytheon radar antenna.



Two berths, with locker and storage space, are provided in the after cabin; and the Captain's stateroom, aft of the pilot house, contains berth, locker space and chart table. The after quarters are heated by radiators from a No. 30 Shipmate hot water boiler in the engine room.

Named for Capt. Passanisi's mother, the new dragger is rigged to fish from both sides. Dragging gear was supplied by Hathaway Machinery Co., and includes 5" gallow frames and a No. 653 winch with 18" drums, which wind 365 fm. of ¾" Hazard wire rope. The winch is driven off the main engine through a sprocket and chain drive. The *Mother Frances* is equipped with Ederer nets and Plymouth cordage, and is fueled and lubricated with Socony-Vacuum products.

Aboard the "Mother Frances", showing, left: Capt. Salvatore Passanisi with Raytheon radar and Raytheon Fathometer; center, Deseco-Lister Diesel auxiliary unit; right: engineer Joseph Frenie with 300 bhp. Atlas Diesel.





The 56' x 15.2' x 7' fishing boat "Norrone", owned by Capt. Emil Nilsen of Seattle, Wash. She fishes for halibut and tuna, and is powered by a D13000 Caterpillar Diesel.

Pacific Salmon Restoration Program Is Underway

Clarence L. Olson, general manager of the Pribilof Islands fur seal operations, has been detailed to launch the Alaska salmon restoration program of the Fish and Wildlife Service. The program is directed toward reversing the downward trend of the salmon catch and to revitalize the industry.

Conservation measures include complete closure of certain important areas where depletion has reduced runs so there is no surplus beyond spawning needs. In other areas where depletion is less pronounced, trap fishing has been cut 50 percent and seining zones have been closed to increase escapement to give salmon a chance to reach spawning grounds. Fishing intensity has been curbed where there is evidence of declines.

Prospects Brighter for Washington, Oregon

Despite some pessimism which has prevailed in the salmon industry because of reduced catches and higher costs, T. F. Sandoz, president of the Columbia River Packers Association, Astoria, Oregon, says that this year the prospects are brighter. He thinks the salmon pack in the Puget Sound and Columbia River region should reach 500,000 cases, against 400,000 last year.

Operations on the Columbia River will reopen June 25 for a 20-day run. Cannerymen in this region report that fish for the Spring pack cost 37 cents a pound, compared to 29 cents last year, to which has been added some increase in cannery wages.

The first real activity in Alaska will be in Bristol Bay, due to open June 25. Alaska's salmon pack last year ran just under 3 million cases, which was only about one-third of the record pack in 1936. In order to reduce costs, there may be consolidation of some Alaskan canneries, which are scattered all along the Southern and Western coasts, and which in some instances have but a 16-day season.

W. C. Arnold, managing director of Alaska Salmon Industry, Inc., with headquarters in Seattle, attributes the declining salmon catches to enemies in the sea which have destroyed the young salmon.

California Has Record Pack of Anchovies

The 1953 pack of canned California anchovies amounted to 1,062,000 cases, valued at \$7,661,000 to the canners. This represented an increase of 57 percent in volume and 62 percent in value over the previous record production of 1952. In 1948 less than 6,000 cases were packed.

Shortages of California sardines during the past few years has caused fishermen and canners to look for other products which can be utilized to keep vessels and plants operating. Anchovies have provided the most successful substitute product in that area and have consequently increased in volume more than any other canned product during that period.

Sardine Pack Declines Sharply

The 1953 pack of California sardines amounted to only 63,612 standard cases—the smallest pack since the inception of the fishery. As recently as 1950 the pack of these fish amounted to over 5 million cases. Sardines were canned in 18 plants in California.

As a result of the disappearance of the sardines from California waters, the pack declined to 2,864,984 cases in 1951, and to only 106,746 cases in 1952.

All Fishing Boats Need License

Every boat used for commercial fishing in California, whether it's a rowboat or a sea-going clipper, must be registered with the Department of Fish and Game this year. The registration fee set by the 1953 Legislature is \$10.

The new law became effective April 1. Its purpose is to spread the cost of fisheries surveys and management more equally among users of the State's fish resources. The law applies not only to full-time commercial fishermen but also to seasonal operators who fish commercially only during the peak times of the year.

Hiller Co. Made Battery Distributor

The Paul W. Hiller Company, Wilmington, Calif., has been appointed marine battery distributor in Southern California for Exide Industrial Division of The Electric Storage Battery Company. The appointment rounds out the Hiller company's line of marine electrical and electronic equipment.

In 1927 the Hiller Company entered the marine field as distributor of marine fire extinguishing systems for Walter Kidde & Company, and through the years expanded its operations to include many allied lines. Last year, the Company created a department specializing in marine electrical and electronic equipment, headed by R. P. Geddes, who for five years had been marine sales manager of the Pacific Division, Bendix Aviation Corp.

In addition to Exide marine batteries, Hiller also distributes the marine products of Minneapolis-Honeywell Regulator Co., Bendix Aviation Corp. and Edo Corporation.

Pacific Whale Increase Seen

A recent Pacific gray whale census conducted at Point Loma, Calif., exceeded 1,000 whales as compared with 850 last year. The census was conducted by the Fish and Wildlife Service in cooperation with the National Park Service as the mammals passed southward along the California coast in their annual winter migration.

The whales move each winter from the far north to the lagoons of lower California to breed. In the course of the migration they sweep close to the Cabrillo National Monu-

ment at Point Loma and the monument serves as a vantage point for the census.

The whale herd's ranks are swelling and the species is expected to regain economic importance with the help of protective regulations. Because whales inhabit the open sea and often visit waters adjacent to more than one country, their capture is regulated by international agreements.

Washington Sets Minimum Net Mesh for Trawlers

A minimum net mesh size of 4½ inches between knots for the State of Washington's offshore trawling fleet has been established by the Washington Department of Fisheries. Trawlers operating out of Washington ports must convert cod ends to the new size by January 1, 1955, and the body of the net by January 1, 1956. Nets being used at present by the fleet have a mesh as small as 3 inches between knots.

California trawlers have been under the new net mesh size for several years and Oregon established deadlines for use of other sizes very recently.

Under definitions of fishing gear for all areas, the Washington State regulations read: "Otter trawl shall be defined as a bag-shaped trawl net with floats along the upper edge of the mouth and with a lead line forming the lower edge thereof, and which utilizes iron-weighted otter frames or otter doors when operated, and with minimum mesh size of 4½ inches in a food fishery or 1½ inches in the shrimp fishery. Hog-ring type cod ends shall measure not more than 20 meshes in length or 100 meshes in circumference and shall be constructed of manila or hemp rope not more than ¾" in diameter; meshes shall measure not less than 6 inches between rings or wires when wet. Double cod ends shall contain meshes not less than 5 inches between knots, and the double section shall measure not more than 30 meshes in length or more than 100 meshes in circumference; the double bags must be constructed of cotton web of not more than 120-thread construction, and tied to the rib lines so the knots and meshes coincide the full length of the double layer. Chafing gear shall cover not more than the last 120 meshes of the net and bag combined and not more than one-half of their circumference, and shall not be fastened to the net or bag at the trailing edge. Not more than eight rib lines may be used."

Fisheries School Offers Scholarships

The University of Washington School of Fisheries has announced offers of financial assistance to outstanding graduate students, undergraduate students, and high school seniors in the form of scholarships with awards from \$250 to \$500 per school year, and by assistantships and parttime employment with stipends ranging from \$600 to \$2,000 per year.

The assistantship or parttime employment are usually available in a number of fisheries research organizations located on or near the university campus at Seattle, Washington.

Lee Howard Wakefield

One of the most interesting fishery careers of the Northwest came to an end last month in the death of Lee Howard Wakefield, president of Apex Fish Company, Seattle, Wash.

Mr. Wakefield went to Washington State from Texas in 1888, settling on Orcas Island. From there he went to Wrangel, Alaska, in 1898 and spent most of his life in the fisheries of Alaska. He was a pioneer in the herring fishery. Mr. Wakefield had four sons, all of whom were trained and are now active in the fish business.

James Named Executive Director of North Pacific Fisheries Commission

Milton C. James, consultant to the Department of Fisheries of the State of Washington, has been appointed temporary executive director of the recently-established International North Pacific Fisheries Commission. The appointment, which is to become effective August 1, was announced by Dr. Stewart Bates of Canada, who is chairman of the Commission.

Mr. James is a former assistant director of the United States Fish & Wildlife Service, and has had a long record of experience in fishery investigations in the United States. He served as a U. S. commissioner on the International Pacific Halibut Fisheries Commission.

The North Pacific Fisheries Commission, which has its headquarters temporarily established at the University of British Columbia in Vancouver, is made up of representatives of Canada, the United States and Japan under the International Convention for the High Seas Fisheries of the North Pacific Ocean, signed in Tokyo in May, 1952.

While there are other international treaties in existence for the conservation of marine fisheries resources, notably those between Canada and the United States for the regulation of the Pacific salmon and halibut fisheries and the ten-nation agreement covering the Northwest Atlantic, this treaty has established principles which are in some ways new in the practice of international conservation. It recognizes the concept of the freedom of the high seas, but it attempts to get recognition of the fact that where a fishery has been developed and is under conservation by one or more parties jointly, other nations, which have not contributed to its development, might be asked to abstain from exercising their ordinary international rights to fish these resources as long as they continue to be fully utilized and under scientific study and regulation.

It will be one of the responsibilities of the Commission to make scientific investigations into the resources of the North Pacific, and to see whether species which one or more of the countries abstain from fishing continue to meet the conditions of abstention.

A program of scientific studies is to be undertaken co-operatively by the three nations in the Commission, and calls for a free exchange of scientific knowledge of the fisheries resources of the North Pacific. The Scientific Committee of the Commission met in Tokyo in May to work out a more definite program of joint scientific study, and to begin the preparation of their report for the next meeting of the Commission itself, to be held in British Columbia towards the end of October.

Bering Sea Crab Studies Continued

A Fish and Wildlife Service biologist aboard the commercial trawler *Deep Sea* is continuing the study of king-crab fishing and crab populations in the Bering Sea. The vessel sailed from Seattle, Wash., late in March. Studies on the king crab were first started in 1953 when the same Service biologist accompanied a Japanese crab fleet fishing in the Bering Sea offshore of Alaska to investigate the biology of the king crab. The decision to continue the studies was made following the first meeting of the International North Pacific Fisheries Commission at Washington, D. C., in February.

In 1953 U. S. and Japanese fishing fleets caught more than 1,500,000 king crabs in the Bering Sea adjacent to Bristol Bay. The U. S. part of the catch is picked and quick frozen aboard the fishing vessel.

Milton C. James



65' all-steel shrimp trawler hull "Frankie Lou" under construction at Siracusa Shipyard, Morgan City, La., for Frank Cardinale of Patterson, La.

Louisiana Fishermen Seek to Stamp Out Fish Electrocution

A group of Morgan City commercial fishermen have petitioned their district judge and sheriff for stiffer penalties for fish law violators, especially the mandatory jail sentences that must be meted out to those convicted of shocking fish by means of electric contrivances. They recently persuaded unlawful fish shockers to turn in at least 15 of these devices to the law enforcement division of the Fish & Wildlife Commission and pledge not to use these instruments again.

Ranger Cecil Gilmore and Capt. Lesma Hebert turned over the shocking machines to their division head after approximately 40 fishermen of the Atchafalaya Basin, under the leadership of Gordon Smith and Placide Daigle of Morgan City, had promised to use every effort to stamp out the electrocution of fish in their area.

Natural Reefs Closed to Oystering

Oystering from natural reefs is banned in Louisiana from May 1 to August 31. L. D. Young, Jr., director of the State Wildlife and Fisheries Commission, stated that between these dates it is unlawful to take seed oysters from natural reefs without previously having made application for permission to the state agency. The regulation prohibits canning, packing or shucking of any oysters during the specified period. Lessees of oyster bedding grounds may cull their own oysters or use them for personal home consumption or for sale.

Would Limit Shrimping in Vermilion Bay

Members of the Vermilion Parish Rod & Gun Club sponsored a meeting on May 4 in Abbeville to discuss plans for limiting the operation of shrimp boats in Vermilion Bay. Commercial fishermen who met with the group favored limiting the operation of the larger shrimp boats in the Bay, providing the smaller operators would not depress the market when shrimp are plentiful there.

Storm Sends Fleet to Port

Storm warnings in the Gulf of Mexico the weekend of May 1-2 brought the fleet in. Some 450 shrimpers from many other ports were seen in Delcambre.

Delcambre Canal where boats come in to port is a man-made waterway some 12 years old. It was previously a drainage canal and the fishermen had to travel in small boats down this canal to Vermilion Bay where they kept their vessels. At that time there were few boats using these facilities and there were no packing plants in Delcambre.

The completion of the port and deep water at Delcambre attracted many boats from other states and other ports, until now Delcambre is a teeming waterfront town with two ice factories to provide crushed ice for the outgoing trawlers, five packing plants and room for hundreds of trawlers to tie up.

To Open Oyster Plant at Delcambre

The Vinet Shrimp Packing Plant in Delcambre has plans for opening an oyster packing plant sometime in the Fall. This firm reported that from 6 a.m. to 11 a.m. on May 10, a total of 84 barrels of shrimp were deheaded and packed in ice, in wooden boxes for shipment. The average count was 31-35, and the price was \$52 per barrel.

Net Shop Changes Ownership

George Paul's Net Shop on the Morgan City waterfront, which Mr. Paul sold three years ago to his brother Ernest Paul, has been bought back by George and renamed "Shrimpers Supply". Mr. Paul, who has been piloting his own shrimp trawler *Miss Constance*, now has Charles Rentrop as captain on it.

Virginia Experimenting with Selective Oyster Breeding

Oyster producers throughout the State could increase their yields and profits tremendously if they could secure a variety of oysters which grow rapidly and reach maturity a year or two earlier than the average commercial oyster now does. A recent experiment conducted in the Virginia Fisheries Laboratory at Gloucester Point suggests that selective breeding, a common practice with domestic animals, may be employed by the oyster planter of the future.

Much interest was aroused among staff members at the Laboratory recently when Dr. Victor L. Loosanoff, of Milford, Conn. assisted Dr. Jay D. Andrews, oyster biologist from Virginia, to spawn oysters artificially. Since that time Dr. Andrews has fed these offspring abundantly with *Chlorella*, a small plant that grows in the water.

Big Run of Peeler Crabs

The Tangier crabbing season, which began in the first week of April, started off with the biggest run in the past ten years. From the first day to the tenth of May crabbers made big catches. Some of them caught as many as 2500 peelers a day. In fact there were too many crabs for the crab houses to handle.

But crabbing, since the tenth of May, has not been very good in Tangier waters. Gales from the east and north-east have swept over the crabbing grounds and caused the crabs to burrow. Consequently, crabbers caught but very few crabs in the last two weeks of May—from 100 to 200 a day. Peelers are now selling for two cents apiece.

Tangier Pound Fishing

Pound fishing for herring and shad was drawing to a close late last month in the Tangier area. However, pound fishermen were still making good profits.

Trappers are now beginning to catch balloon fish. These they skin and sell in Crisfield for 25 cents a pound.

Hampton Roads Area Landings

An increase was shown by fish landings in the Hampton Roads area during the month of May. The catch totalled 1,716,100 lbs., which was approximately 100,000 lbs. more than in the same month of 1953. Almost half of the landings came from pound nets.

The yield of scup was 619,900 lbs., and made up over one-third of the catch. Ranking second was sea trout, with 353,900 lbs.

"Peerless" Is 50th Shrimp Trawler Built By Conrad Industries

IT isn't unusual for Conrad Industries, Inc. of Morgan City, La., to launch a shrimp trawler a month, but the *Peerless*, their 50th trawler to be built in the past five years, was something to celebrate. The *Peerless* is also the 200th shrimper constructed at the shipyard since it was established by the late Eustathis N. Klonaris in 1938. The present owner, J. Parker Conrad, acquired the boat building plant in 1948.

The aptly-named *Peerless* was built for Oscar Galjour of Aransas Pass, Texas, and the trawler is now operating out of that port. Mr. Galjour was the first customer at Conrad Industries in 1948, when the *Buddy Boy* was built for him. Since that time he alone, or in partnership with Herbert Picou, has had Conrad Industries build for him the *Carol Ann*, the *Hilda G.*, and the *Pat & David*. Before 1954 is over Galjour will have another Conrad-built shrimper, his order having been placed several months ago.

The *Peerless* is a 70' deluxe model shrimp trawler, with a large 26' x 10' 4" deckhouse. The wheelhouse, galley and sleeping quarters are three separate compartments opening one into the other on the topside.

The deckhouse is finished throughout with counter-matched mahogany. There are built-in cabinets topped with Formica in the galley, a butane cook stove, ice box, and a table to seat at least six people. The tops of the seats may be removed in order to provide extra storage space for gear.

Sleeping Accommodations

Bunks for the captain and two crew members are located in the deckhouse topside, and there are bunks for two more deckhands in the fo'c's'le below deck. Linoleum covers the floors throughout.

Other conveniences on the *Peerless* are a Fairbanks-Morse water pressure system that insures free-flowing hot and cold water at all times in the galley and lavatory, which includes a shower. A 32-volt, 1500-watt Onan light plant provides electrical power for the water pressure system, running lights, interior illumination and the electrically-driven bilge pump. The main bilge pump is a gasoline-driven Fairbanks-Morse centrifugal model, and there is also an electrically-driven 2½" Goulds self-priming pump.

The *Peerless* is powered by a D17000, 150 hp. Caterpillar Diesel with Snow-Nabstedt 3:1 reduction gear, furnished by Wm. Holt Machinery Co., of San Antonio, Texas.



New 65' trawler "Cajun" completed by Conrad Industries for Guy Pete and Arvid Larson of Brownsville, Texas. Her power plant is a D337 Caterpillar 170 hp. Diesel.



The 70' shrimper "Peerless", built at Conrad Industries, Morgan City, La., for owner Oscar Galjour of Aransas Pass, Texas. She has a D17000, 150 hp. Caterpillar Diesel.

Other equipment includes a Columbian Bronze propeller, Northill anchors, a 515½T Stroudsburg hoist and four 31-plate Surrette batteries.

Below the deck the shrimp hold will accommodate 38 net tons of ice. Fiberglass and aluminum foil were used in the *Peerless* for insulation, this being a comparatively new development in boats built by Conrad.

The outside planking of the *Peerless* is 2" mahogany, inside planking is 2" long leaf pine. She has 10" steel mast, 6" steel boom and ¾" stay rods.

Four 1000-gallon-capacity fuel tanks are located in the engine room, and the 800-gallon supply of fresh water is carried in a tank in the stern of the boat.

Larger Shrimpers Now Built

In the 50th milestone of shrimp trawler building by Conrad Industries, Inc., it is enlightening to make a few comparisons. In 1938 when Mr. Klonaris came to Morgan City from Fernandina, Fla. and established the present shipyard, he built 30' boats for shrimp fishermen. But soon the size increased to 44' trawlers, and then to 50 and 65' boats. The Conrad yard now builds trawlers ranging from 50 to 70' in length. The present-day trawlers are fast boats, making 11 to 13 knots running light.

Conrad Industries customers hail from Florida, Texas and Missouri, and in Louisiana the yard serves Morgan City, Patterson, Delcambre and Berwick. The only two vessels built by Conrad which were not shrimp trawlers were the *Don Nietas*, a crewboat used for oil field work, and *The Fish Hawk*, a red snapper boat for the Underhill Brothers of Port Arthur, Texas. It takes approximately three months for a trawler to be completed at Conrad's, and there are always several under construction in the large hangar-like building on the banks of the Atchafalaya River.

Trawler "Cajun" Delivered

Latest trawler to be finished at Conrad's is the 65' *Cajun*, Hull No. 203, which was delivered to co-owners Guy Pete and Arvid Larson of Brownsville, Texas, the middle of May.

This craft has 1½" mahogany outside planking and 2" inside pine. Her ice capacity is 35-40 tons, and she is insulated with Fiberglas and aluminum foil. The vessel's fresh water capacity is 500 gallons, while fuel capacity is 3600 gallons.

A D337 Caterpillar 170 hp. Diesel powers the *Cajun*, and there is a 52", 4-blade Doran propeller. Aids to navigation found in the wheelhouse of both the *Cajun* and the *Peerless* include Metal Marine automatic pilots and Bendix DR-7A depth recorders. Atop the deckhouses of both crafts are Portable Light Co. One-Mile-Ray searchlights. The *Cajun* also has a 6" Ritchie compass.

Fairbanks, Morse & Co. manufactured the *Cajun's* water pressure system, the 1½" gasoline centrifugal

(Continued on page 48)



The 40' fishing tug "Dawn" shown after crossing Lake Michigan in a northwester. The boat is owned by Thomas H. Peterson of Fayette, Mich., and is used for whitefishing. She is powered with a 100 hp. Cummins Diesel which turns 26 x 22 Michigan propeller through 2:1 Twin Disc reduction gear. Other equipment includes Northill anchor and Wilfrid White SurEcho depth sounder.

Great Lakes Fishermen Are Making Good Spring Catches

Although commercial netters complain about the loss of the highly profitable trout fishery and the serious depletion of the whitefish supply, for which the sea lamprey is blamed, they are pleased with the great hordes of smelt, chubs, walleyes and yellow perch. Most of the commercial fishermen operating on Lakes Huron and Michigan have turned to netting these species, and find their catches often are larger than they can immediately dispose of.

For this reason, Green Bay commercial fishermen have gotten together to establish a processing co-operative to deep-freeze and package their catches. Purpose of this action is not only to prevent loss due to oversupply, but to meet growing competition from imports of freshwater fish.

In the Green Bay area alone, as well as at practically all Lake Michigan ports, tons of smelt were harvested this season, and most of the commercial freezers are filled to capacity. Truckloads of the small silver fish were turned away because there wasn't any storage space for them.

On Bays de Noc the perch run is already at peak. This means another heavy avalanche of fresh-caught fish for market and placement. By June, walleyes were expected to predominate the bays for netters, who anticipate a good harvest of them again this year.

On Lake Superior, in the Duluth, Minn. and Bayfield, Wis. areas, a good smelt harvest was had this year. At present trout and whitefish production on the big lake is generally moderately fair. Near Ontonagon, Mich., gill netters have been taking fish around Green Reef, Panama Reef, Pinkerton Reef, Lone Reef, Presque Isle Reef, 4-Mile Rock Reef, Fire Steele Reef, 10-Mile Bay Reef, and 14-Mile Reef, as well as off Isle Royale.

Set-hook liners were coming up with some nice trout takes, but yields were not as impressive as in former years. In the eastern waters, whitefish takes were improved in the Whitefish Bay area. By June lake trout trollers were expected to be operating daily out of Grand Marais, Munising, Marquette, Mich. and some of the Wisconsin ports.

On Lake Huron, particularly in the Saginaw Bay area, both smelt and yellow perch catches have been good. Bayport, Mich., fish companies handled huge quantities of smelt this year. Whitefish yields from Huron have been poor to fair, but the pickerel takes have been generally good.

According to tentative figures, with Wisconsin (8,000,000 lbs.), Illinois (3,000,000 lbs.), and Michigan (12,000,000 lbs.), the smelt harvest for 1954 will result in a record

catch, although the commercial haul itself represents only about half of the total.

Commercial fishermen operating out of Monroe, Mich., Toledo, Port Clinton, Sandusky, Huron, Vermilion, Lakewood, Cleveland, Fairport, and Ashtabula, Ohio, reported good Spring yields of pickerel, blue pike, yellow pike, sheepshead, yellow perch, carp, white bass, and shad this year. Erie, Pa. fishermen came up with nice catches of blue pike. Whitefish takes were somewhat lower, as they were for the Dunkirk, N. Y. netters.

Results of Lake Trout Study

Closely related to the sea lamprey problem in the Great Lakes is the early life-history of the lake trout in Lake Superior, according to a report by Paul Eschmeyer of the Fish & Wildlife Service's Great Lakes Fisheries Investigations.

The report revealed information obtained from nine months of traveling along the south shore of Lake Superior. More than 400 young trout were taken in a 10 x 35 ft. otter trawl which was dragged along the bottom for ten minute periods from the 62' research vessel Cisco. Equipped with radar and a continuous depth recorder, the Cisco was used for nine two-week cruises last Summer, off Laughing Whitefish Point between Marquette and Munising.

Found in less than 120 ft. of water most of the Summer, the young trout appeared to migrate to the depths with the coming of storms and cold water in the Fall. Immediately after the severe storm of September 11-12 trout were found at depths near 300 ft.

The investigation showed that young trout grow most between the middle of August and the middle of September, with one-year-olds gaining as much as three inches per year. Crustaceans were found to make up 90 percent of the food of young lake trout.

Asks Planting of Walleyes

At Indian River, Mich., recently, Rep. Hugo A. Nelson said he would ask Michigan's Conservation Commission to buy walleyes from commercial fishermen and plant them in inland waters. Nelson, chairman of the House Fish & Fisheries Committee, said he has asked four commercial fishing firms in the Saginaw area what it would cost to buy large quantities of walleyes for replanting. He believes that if the Conservation Department bought walleyes from commercial fishermen and planted them in the inland waters, fishing would be improved.

"Cisco" to Study Lampreys

The Cisco, the Fish & Wildlife Service's floating laboratory, arrived at Grand Haven, Mich. recently to start a 7-month study of the Great Lakes fishing problems. The 62' vessel will make a dozen 2-week cruises into Lake Michigan south of a line from Ludington, Mich., to Manitowish, Wis., to gather more information about the sea lamprey which has seriously affected the trout fishery on the Great Lakes.

Clifford Tetzloff, a biologist, is in charge, while three other biologists will work with him.

Market for Lampreys

Great Lakes commercial fishermen now have available to them a market for lampreys and eels. A. Rose, 10 Widner St., Toronto, Ontario, Canada, is reported to be buying all the sea lampreys and eels that can be caught and shipped to him.

Rose, the first major sea lamprey and eel processor in the Great Lakes area, is producing a product labeled "Smoked Lamprey" and "Smoked Eel", and both items are said to be going over well.

Rose came from one of the Baltic states about four years ago. He started with a production and sales of only 25 lbs. of smoked lampreys and eels a week. It was not long, however, before he was producing and selling 2,000 lbs. weekly.

Bay Towing and Dredging Company's 50' towboat "Eagle" maneuvers a barge loaded with oyster shells along Alabama's Mobile River into the unloading dock of a local cement company where the shells will be used in the cement manufacturing process. The barge was towed a distance of 14 miles from the dredging site in Mobile Bay. Like the dredges and other two towboats applied to the unusual dredging operation, the "Eagle" has General Motors Diesel power aboard.



North Carolina to Have New Boat Harbor at Stumpy Point

A new harbor at Stumpy Point which will accommodate about 45 fishing boats is scheduled for completion soon. The basin, which is located at the south end of the village, already has been dredged to a depth of 13 ft. It is protected from wind and tides from all sides. A canal and channel $8\frac{1}{2}$ ft. deep and 25 ft. wide has been completed all the way out to the deep water in Stumpy Point Bay.

Work began last month on a new fish house, of block construction, which will be 30 by 65 ft. Ice storage room will be 15 x 18 with an ice manufacturing machine.

The new basin is being created as the result of a strong demand for better facilities for accommodating the larger boats coming into Stumpy Point. It is particularly cramped during shrimping and oystering seasons.

Predicts Good Soft Crabbing Season

Ronald Craddock of Manns Harbor recently predicted a very good soft crabbing season this year. His prediction was based on a tremendous number of "peeler" crabs caught in his nets one day recently. Mr. Craddock also caught a lot of shrimp in his long nets which is a sign the shrimp are really thick.

Flounders, which are not usually caught in any great quantities in the upper parts of Croatan Sound, have been taken by Manns Harbor fishermen recently. The catch is reported to have been around 600 lbs. It is believed that the Buggs Island dam project, which has been holding the fresh water back, is allowing the salt water to go farther upstream in the sounds, with the result that salt water species are being found in the upper parts of the sounds. It also is believed that shrimp will be caught in greater quantities farther north in the sounds this year.

Rules on Shrimp Trawl Taxes

Attorney General Harry McMullan announced on May 25 that commercial fishing taxes must be paid by owners and operators of all boats using trawl nets for the taking of shrimp in state-controlled waters. The Attorney General said that one of the General Statutes levies an annual license upon different appliances used in the state's commercial fishing waters and includes among other taxes a levy of \$1 per hundred yards or fraction thereof on seines.

Another law levies an annual tax on certain boats, including trawl boats and motor boats, of fifty cents per foot in overall length if the boat does not exceed 26 ft. in length; or 75 cents per foot of overall length on boats exceeding 26 ft.

Still another statute provides that no tax shall be levied or collected from bona fide residents or citizens of

North Carolina who take fish, oysters, clams, scallops or crabs other than with dredges for their own personal or family use and consumption. This ruling does not include the taking of shrimp, and persons apprehended taking them without having procured a State license to do so face prosecution.

Georgia Fleet Blessing Held at Thunderbolt

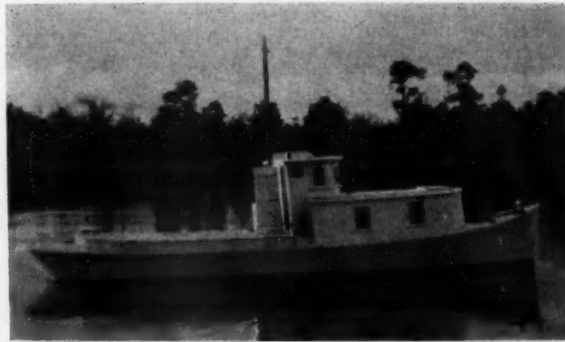
Hundreds of persons turned out last month for the traditional blessing of the fleet at Thunderbolt Yacht Basin. J. Arman Lloyd, chairman of the event, said an estimated 50 boats, commercial and private, participated in the ceremony.

The traditional event was resumed this year after a lapse of two years, and hereafter it will be an annual affair. As the boats passed the yacht basin, they were blessed by the Rev. J. A. Morris, pastor of the Nativity of Our Lord Church in Thunderbolt.

Crab Plant Under New Ownership

Mr. and Mrs. R. L. Whorton have sold their crab plant to G. L. Lewis of Jacksonville, Fla. and his two sons, W. B. Lewis and E. W. Lewis of the Lewis Crab Plant in Brunswick. The Whortons acquired the plant in 1952 from Sam L. Lewis of the Brunswick Quick Freezer who formerly operated it. The business has been expanded and has become a major supplier of crab meat over much of the nation.

Included in the equipment sale were four shrimp boats and seven crab boats. The shrimp boats were the *Celeste*, the *Deus Salve*, the *Ruth W.*, and the *Miss Swansboro*.

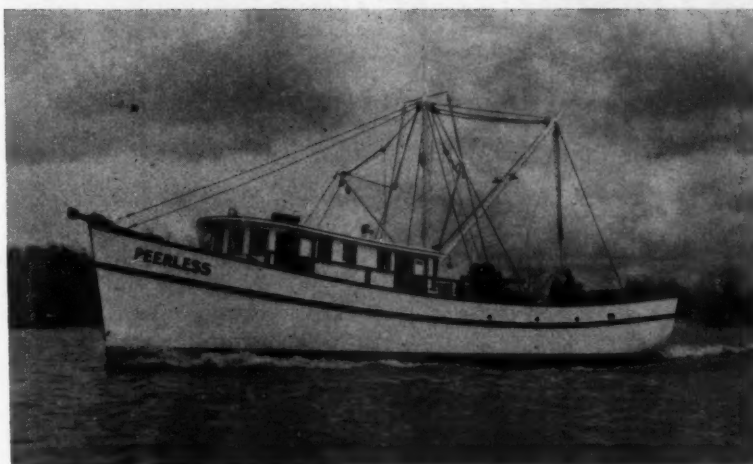


38' "Laura D.", which is used for fishing and shrimping by owner B. G. Hardy of Merrimon, N. C. She is powered with a 6-cylinder Chrysler Crown engine and uses Linen Thread Co. Gold Medal netting.

Build with Confidence at Conrad's

CONRAD is fully equipped to design, build and outfit wooden fishing boats of any size or type. Only carefully selected materials are used, and Conrad craftsmanship assures a seaworthy vessel, built for long life and low maintenance.

You can have complete confidence that Conrad will produce a quality vessel to meet your most exacting needs.



Our 50th Shrimp Trawler, the 70 Ft. Deluxe Model "Peerless"

Built for Capt. Oscar Galjour of Aransas Pass, Texas, who had the first Conrad-built trawler. She is the fifth boat constructed by us for Capt. Galjour, and his sixth trawler is on order.

CONRAD INDUSTRIES

Boat Builders for Fishermen

Morgan City, Louisiana

Rhode Island Oystermen Have Satisfactory Season

With the coming of May, both the B. J. Rooks Co. and the Warren Oyster Co. of Warren virtually closed up dredging operations for the summer. The latter company, however, still was providing a small number of bivalves in the shell each week for a Boston restaurant. Representatives of the two firms agreed that the season had been "fair" and "satisfactory."

Despite what appeared to be a record price for recent years, the producers only could provide a limited supply. Oysters were said to have been perhaps slightly more scarce than the year before.

Quahaug Transplanting Plan Studied

Thomas J. Wright, Jr., chief of the State Division of Fish & Game, last month led a group of three dredge boats into the Providence River to attempt to ascertain how big a job it will be to transplant quahaugs to clean waters of Narragansett Bay.

Wright is preparing specifications under which the State will hire dredge boats to move the quahaugs to the clean waters of mid-bay. The General Assembly recently appropriated \$25,000 for that purpose.

After being deposited in clean water, the quahaugs will be allowed to remain there for at least three weeks to perform a self-cleansing operation.

Blount to Build Marine Survey Vessel

Blount Marine Corp., Warren, has a contract to build a 44' x 14' x 7' all welded steel vessel for Charles B. Perkins of Wakefield. The craft will be used in marine survey work in Narragansett Bay and nearby ocean waters. Delivery is scheduled for the Fall of this year.

Connecticut Draggers Make Heavy Trash Fish Landings

Stonington fish landings showed a continued upswing during the month of May, according to figures compiled at the two Stonington docks. Dragger captains took advantage of the good price being offered for trash fish and landed a total of 1,680,000 lbs. at Longo's dock. The figure does not include trash fish landed by Stonington boats at Point Judith, which would bring the amount considerably over the 2,000,000-lb. mark.

Market fish also showed a big increase with 259,300 lbs. landed between the two docks, as compared to the 144,000 lbs. brought in during the month of April. Brightening the picture was the appearance of scup and fluke in greater quantities.

Three Draggers Return from South

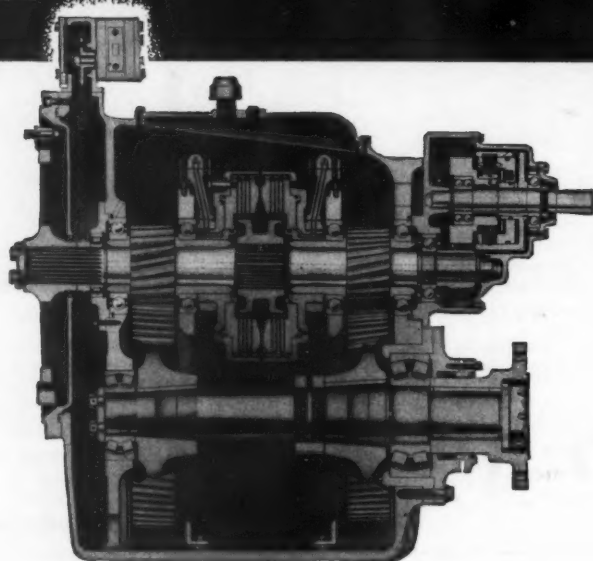
Shrimp fishing in the Gulf of Mexico has failed to pay off for Stonington fishermen, and the first three draggers of the four to give shrimping a try, were returning North last month.

Leaving Texas ports recently were Capt. Dennis Cidale's *Carol* and *Dennis*; Capt. Bill Roderick's *Rita*; and the *Pvt. Frank* Kessler, Capt. Kristian Kristiansen.

The local men found that the shrimp season is still to develop and that the price on the shellfish skidded down with the addition of so many draggers from the north. Bad weather added to their troubles, with high winds and rough waters holding most of the local boats to a single trip in the last month. Even then the local draggers are reported to have found that trips were at least five days long, and that only hand-line fishing for red snappers during the day paid off.

The fourth Stonington dragger still in Texas, Capt. Carl Johnson's *Russell S.*, has not indicated future plans.

*Minimum space ...
maximum maneuverability*



Twin Disc Marine Gears

On any type boat—with any type engine up to 340 hp—Twin Disc can meet your requirements with a complete line of Marine Gears ... designed to deliver dependable, trouble-free performance over an extremely long wear-life.

Compact in design, Twin Disc Marine Gears combine a heavy-duty duplex clutch for forward and reverse with an integral reduction gear. And with full power and speed in *either* direction—controlled by a single lever—Twin Disc Marine Gears offer *maximum* maneuverability.

Nine models of Marine Gears are available, with optional and exclusive features offered—including Fluid Coupling models for smooth, slow-speed trolling without engine-fouling—and Rubber Block Drive that provides cushioned power-transmission and permits reasonable misalignments.

Write Twin Disc for *complete* information.

Twin Disc Model MG-302 Marine Gear, with Rubber Block Drive transmitting engine torque through rubber-in-compression for longer wear-life and cushioned operation.



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Massachusetts Clam Prospects Improved

Francis W. Sargent of Orleans, director of the Division of Marine Fisheries, recently reported that prospects of an increased supply of soft-shell clams are better than they have been for several years and that the principal concern is to see that the many acres of undersize clams approaching maturity are given every opportunity to grow unmolested.

Mr. Sargent emphasized that these seed clams represent the harvestable crop of the immediate future. The entire fishery may have to depend upon them for several years, since clams apparently do not reproduce annually with the same degree of success.

He pointed out that fluctuations in the fishery are, to an important extent, due to the phenomenon of dominant year classes, frequently associated with organisms having a high reproductive potential.

Mr. Sargent reported that it looks as though the clam is coming back in many areas of Massachusetts. One thing which must be done now is to take care of the clam beds. It has been demonstrated that for every bushel of clams that reaches the consumer, another is wasted by breakage on the flats due to careless digging and subsequent improper handling. Increased efficiency in harvesting and transporting the crop could nearly double its value.

Sargent believes that maintaining a close watch on areas containing a substantial quantity of seed and promptly utilizing the clams as they reach legal size will avoid losses due to natural mortality following the attainment of the 2-inch minimum length. Another important measure is the protection of young clams against their natural enemies.

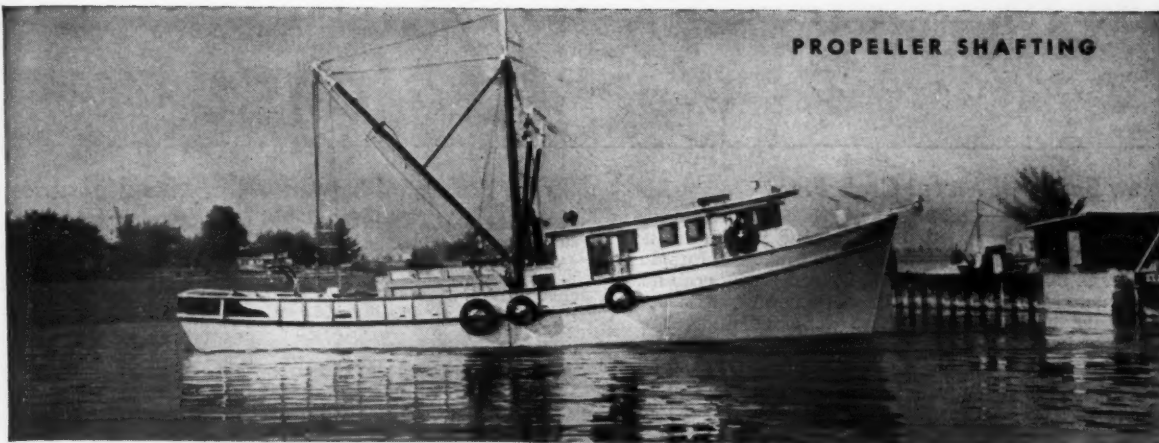
April Fish Landings Up

Receipts at the Fish Pier during April totaled 15,770,000 lbs., with a value of \$1,161,000 when sold over the New England Fish Exchange. This was an increase of 16 percent in volume and 18 percent in value over landings for April, 1953.

The offshore fleet operated mostly on the Nova Scotian Banks during the month, with some activity in the channel and on Georges Bank. The 97 trips by the offshore fleet averaged approximately 128,000 lbs., compared to an average of 107,000 lbs. per trip during April 1953. Haddock and scrod haddock combined comprised 78% of the month's total landings, with haddock leading the scrod haddock total by close to 2 million pounds.

Landings for the first four months of 1954 were higher in volume by 8% and in value by 15% than production for the similar period in 1953.

PROPELLER SHAFTING



It's Tobin Bronze Shafting for this new 72-foot shrimp trawler!

This is the "Virginia Bradley," newest member of the Cam Tam Shrimp Company's fishing fleet. She was built by A. W. Covacevich Shipyard, Biloxi, Miss. Because her propeller shaft is Tobin Bronze* her owners are sure of dependable power delivery — in fair weather or foul.

Tobin Bronze resists sea-water corrosion. It is strong . . . yet "gives" enough under sudden jars to lessen the

chance of damage to bearings and housings. This shafting is turned for soundness and specially straightened. That keeps vibration down.

To make sure it's Tobin Bronze, look for this propeller insignie. And for higher-speed, heavier-duty work, specify Tempaloy* Shafting. For corrosion-resistant fastenings and fittings, specify



Everdur* Copper-Silicon Alloys. *The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.*

*Reg. U. S. Pat. Off.

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Gloucester Fish Firms Advised To Do Cooperative Research

A relatively modest program of cooperative research financed and directed by Gloucester firms could mean more jobs and more dollars of profit for those in the fishing industry, according to Dr. Daniel P. Norman, director of the New England Spectrochemical Laboratory of Ipswich. Speaking at a recent Rotary Club meeting, Dr. Norman declared: "Of the fishing industry it can be said more justly than of any other major industry in the country that things are still being done as they were in 1904."

Dr. Norman then elaborated on one example of how cooperative research could pay off for Gloucester. He said that as more and more the fishing business in Gloucester turns to pre-cooked fish, there will be more used cooking oils and fish scraps that accumulate from the deep-frying process. Dr. Norman revealed that at present this material amounts to between 10,000 and 15,000 lbs. a week that is sold for only three to four cents a pound for making soap.

He commented that no single Gloucester plant has enough of this material to warrant a plant for its "recovery, separation and reuse." But all plants combining to develop a process in a pilot plant would have enough. Dr. Norman asserted that if the Gloucester Fisheries Association were to sponsor such a program for the sole benefit of its members, a product to bring 20 cents a pound as pet meal could result.

Among other ways to make money from fishing touched upon by Dr. Norman was the following:

Fish skins—A Salem tannery is making leather goods from fish skins imported in brine from Norway and Germany. They will pay 10 to 15¢ for a skin free of fork holes. From nearby Gloucester they could get skins without having to pickle them.

"Judith Lee Rose" Does Well on Maiden Trip

The 115-ft. dragger *Judith Lee Rose* did very well on her maiden fishing trip, according to her skipper and co-owner, Capt. Frank Rose, Jr. She arrived in port on May 7 with 294,000 lbs. ocean perch, which were sold to the Cape Ann Fisheries, Inc. The catch was made in a two-week trip to Quero Bank off Nova Scotia.

On May 25 the vessel was back in port with her second trip which was even larger—320,000 lbs.

Heaviest Day's Landings in Three Years

On May 3 Gloucester enjoyed its biggest fresh fish day in three years, when 30 draggers hauled for 2,425,000 lbs. That supply was estimated to mean \$142,000 to boat owners, fishermen and shore workers.

Expansion of Fish Pier to Be Studied

A study of the possibility of extending the Gloucester state pier will be made by the state public works department under a measure recently signed into law by Gov. Herter. A Gloucester delegation has urged that the pier be extended to permit dockage of some 24 more vessels.

Court Decides Freezing of Lobsters Legal

Judge Frank E. Smith handed down a decision on May 22 in favor of the Consolidated Lobster Co. in its case against the Commissioner of Natural Resources and the Director of Law Enforcement. The Consolidated Lobster Co. had asked the courts to decide whether lobster companies can legally freeze lobsters instead of cooking them.

The decision in favor of the lobster company is considered very important not only to the petitioner but to the lobster fishery in general. The industry long has been troubled by too great a quantity or too little, and the fisherman and dealer both have suffered by wide fluctuation in price. Now when the supply is great, lobsters can be frozen and stored, thereby stabilizing prices.

Equipment and Supply Trade News

New Save-All Metal Crab Float

A new, all-metal crab float which offers numerous advantages over the wood-slat type now in general use is being produced by Save-All Crab Float Manufacturing Co., P. O. Box 68, Baltimore 10, Md. The new crab float is constructed of lightweight, durable metal and is buoyed by adjustable pontoons. These pontoons allow the attendant to adjust the depth of the float while in the water in a matter of minutes. A unique louver system in the sides of the Save-All crab float insures constant and uniform circulation of water at all times.

It is claimed that with the new float, the crabber need no longer worry about water-logging, the man-hours lost by numerous launchings and beachings during the season, or the high mortality rate among the shedder crabs due to insufficient water circulation and souring.

Kirby Has "Wet Wall" Paint for Fish Holds

"Wet Wall" paint, developed by the George Kirby Jr. Paint Co., 14 Wall St., New Bedford, Mass., solves the maintenance problems of walls constantly wet with condensation or steam. This paint bonds securely even when applied to a dripping wet wall and forms a hard enamel surface, easily cleaned and sanitary.

Peeling of the paint and rotting of the surface beneath it are prevented by the porosity of the paint. It has been called "the paint that breathes" because it allows atmospheric moisture to pass through the painted surface without destroying the paint bond. Surface moisture runs off so that the wood beneath is doubly protected.

"Wet Wall" paint, which also can be used in freezing plants, is available only in white. However, it can be tinted easily with standard colors-in-oil.

Bulletin on Dillon Dynamometers

Specifications of Dillon Dynamometers, as well as illustrations of 23 new applications for these force meters, are contained in a new bulletin available from W. C. Dillon & Co., Inc., 14620 Keswick St., Van Nuys, Calif. One of the photographs in the leaflet shows how easily a Dynamometer can be attached to a fishing net or paravane cable in order to check tension existing therein. Portability and resistance to salt spray make the Dillon Dynamometer well suited for marine use.



Opening of the new 300' conveyorized production line at Cummins Engine Co., Inc., Columbus, Indiana, signalled the completion of the building portion of the Company's \$7,000,000 postwar expansion program. This modern assembly line is housed in a completely air-conditioned, dust-proof structure, illuminated to the highest industrial standards. Cummins Diesels come down the moving line, carefully assembled under strict quality control measures.

Lowe Promoted by American Manufacturing

James J. Lowe has been named sales manager of the American Manufacturing Co., Brooklyn, N. Y. cordage and rope firm. He formerly supervised American's advertising and sales promotion activities.

Mr. Lowe joined the Sales Division of the American Manufacturing Co. in 1935. In 1939, he took on the additional duties of directing American's sales promotion and advertising programs. During World War II, Lowe was a Navy Lieutenant.



James J. Lowe

Sudbury Introduces Vapor Proof Switch

Sudbury Laboratory of South Sudbury, Mass. has announced the manufacture of a new vapor proof switch, which is designed to increase safety at sea. Made expressly for marine service, the switch is claimed to give protection against vapors, explosive gases, and flashing arc. It is constructed of Bakelite, a product used for years in the electrical industry, and Boltaron, a tough plastic which has strength and the ability to be hermetically sealed to Bakelite. The contacts within the switch are made of heavy-duty copper capable of withstanding 300 amperes of current. The terminals, which are recessed into the back of the switch permitting easy flush mounting, are of corrosion-resistant brass and of heavy construction.

The Sudbury vapor proof switch may be utilized where one or two batteries or banks of batteries are used. The battery switch can be installed in the engine compartment close to the batteries, making it possible to keep battery cables short. Its hermetic seal insures that there will be no open spark when making or breaking contact. This spark is reported to be the cause of a great number of fires on boats.

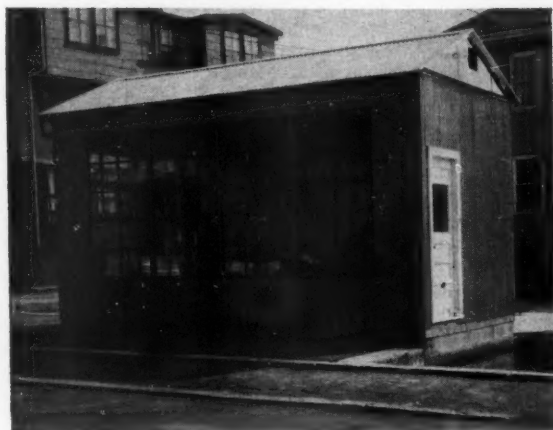
The new switch is designed for selective control of dual batteries for 6, 12, or 32 volt systems. With such an arrangement, the boat owner can charge either battery independently or both batteries at the same time. Engines can be started with either battery, or if batteries are low, both batteries may be used to start the engines. In addition, the vapor proof seal of the Sudbury switch eliminates any corrosion of the contact surfaces, insuring full power from the batteries at all times.

New Catalog on Snow-Nabstedt Gears

The Snow-Nabstedt Gear Corp., Hamden, Conn., has released for the trade a 6-page, two color catalog covering its complete line of S-N marine reverse and reduction gears for gasoline, Diesel and direct reversing engines up to 1000 hp. Complete in every detail, the catalog was designed to assist the distributor, engine dealer and boat owner in the selection of the proper S-N marine gears for a particular engine and boat.

All information is presented in a simplified form and covers hydraulic, manual and air-operated marine gears, outlining in detail the advantages of each. Cut-away illustrations also are included. Complete specification data on each of the gears is clearly presented, covering model numbers, hp. capacities, engine rpm's, housing adaptations and gear reduction ratios.

Fishing out of GLOUCESTER?



STOP by our new showroom at 65 Commercial St. and see the latest in a Marine engine. We can help you select the right Cat* Marine Diesel to power your boat... help you custom-tailor the engine to your preferences. Call for a free power analysis Today!

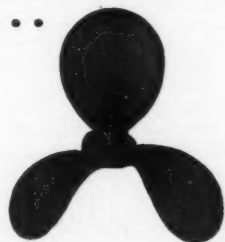
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PRECISION EQUIPMENT and expert workmen insure an accurate repair job. We guarantee our work. Estimates gladly furnished. Send your damaged propeller to us for free inspection and report.

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HERE'S A LIGHTWEIGHT ANCHOR THAT

HOLDS!



You sea-going men can relax ashore no matter how hard it's blowing if a Northill anchor is holding your boat. For a Northill digs in instantly with a bulldog grip whether the bottom is hard or soft. And when you're ready to move on, the scientific design of your Northill, which has prevented it from burying too deep, allows you to break out easily. It's easy to handle and quick to stow. 3 to 105 lbs., for boats to 80 ft.

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Los Angeles 45, California

Subsidiary of THE GARRETT CORPORATION

4 TIMES BIGGER HAUL with FISHSCOPE!

Captain Henry Rollins of the Malolo, who has fished out of Newport News, Va., for Hawkins and Forrest Seafoods for many years, had the first Edo Fishscope installation in his area.

"On my first trip we had made a set and were dragging down with the rest of the fleet," says Capt. Rollins. "The scope showed a real good concentration of fish but after ten minutes it disappeared.

"I turned and headed right back through that school and after an additional 30 minutes hauled back with 14,000 pounds. The rest of the fleet held their original course and when they hauled back two hours later each boat had only from 1,000 to 3,000 pounds.

"After that experience my only trouble was the other boats pressing in on me as they knew I was only fishing when I saw fish. That problem is solved now. They all have their own Fishscopes."

Since installing the Fishscope in the Malolo, E. Smola and Sons, Edo distributors in the Newport News-Norfolk area, have also installed Fishscopes in the Resolute, Mary Jane, P. K. Hunt, Admiral, Sea Queen, Frederick H., South Sea, Lawson, Voyager, Mocking Bird, Cherokee, Whitestone, and Irma Virginia.

Send for brochure on Fishscope today.

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COLLEGE POINT, NEW YORK



B.F. Goodrich Cutless Bearings For Propeller Shafts



Soft rubber, water lubricated, Cutless bearings give years of trouble free service on fishing vessels. Resist heat, oil, and wear. Quiet and protect shafts too. There is a size and type to fit your boat.

Available at Boat Repair Yards and Marine Equipment dealers.

Lucian Q. Moffitt, Inc.
AKRON 8, OHIO
Engineers and National Distributors

Caterpillar Offers Propeller Calculator

Wide interest is being shown in the marine field in a new propeller calculator introduced recently by Caterpillar Tractor Co., Peoria, Ill. The calculator gives any person a tool with which to figure propeller sizes without laboring through the usual calculation details. Propeller sizes may be determined for single and twin-screw applications. Sizes include propeller diameter and pitch as well as three and four-blade wheels.

The new propeller calculator is a compact assembly of the charts normally used by Caterpillar in propeller calculation. The information is arranged in a small, neat slide rule form. According to the Company, if the calculator is properly used, the correct horsepower and size engine, reduction gear, propeller pitch and diameter and blade pressure can be determined. The only information needed to attain accuracy with the calculator is the shape of the hull, general dimensions of the boat and such data as desired speed and application.

Contained with the calculator is a descriptive booklet entitled "How to Use Your Propeller Calculator". Both the slide rule type calculator and the booklet come in an attractive leather pocket secretary assuring convenience and protection.

New Design Increases Power of GM Diesels

Changes in design which have increased the output of General Motors' single 6-110 Diesel engines to 300 hp. maximum and 230 hp. continuous have been announced by the Detroit Diesel Engine Division. The increases totalling 25 and 17 hp., respectively, can be used to advantage by all types of boats in maintaining better maneuverability in heavy seas. In fishing boats the extra power will help cut running time to and from fishing grounds.

Basically the power increase in these two-cycle Diesels is the result of freer "engine breathing" and higher engine speeds. Freer breathing has been accomplished in part by increasing the number of ports in the cylinder liners. Also the ports have been grouped together in partially overlapping pairs to form larger figure "8" shaped openings.

With the increased scavenging capacity thus provided and because of the inherent strength of all structural parts allowed it, maximum engine speed has been increased from 1800 to 2000 rpm. The continuous operating speed is now 1800 instead of 1600 rpm. Other changes which contribute to greater operating efficiency and longer engine life include a new "high valve" injector similar to that recently introduced on the Series 71 engines, new roller bearing idler gear mountings and larger piston struts to add strength and rigidity to the pistons.

More Super-Harbord Plywood Available

For the first time since the war, Super-Harbord boat hull grade fir plywood is widely available through retail lumber yard outlets. This was announced by E. W. Daniels of Harbor Plywood Corp., Aberdeen, Wash., which pioneered and perfected waterproof plywood for boats 20 years ago. New production facilities and improved raw material supply now make possible wider distribution of Super-Harbord.

Super-Harbord is manufactured throughout from prime old growth Douglas fir heartwood—the durable part of the tree. The 100 per cent phenolic resin waterproof glue used in the panel is claimed to outlast the life of the wood. Face plys are selected for good appearance and inner plys are machine edged and tightly butted to provide for solid inner ply construction.

After leaving the hot press, each panel is re-humidified to keep it flat, removing the primary cause of warping and twisting. Super-Harbord exceeds in quality the specifications for the Navy's boat hull grade rotary cut fir plywood.

New Sonafone Portable Radiotelephone

Sonar Radio Corp., 3050 W. 21st St., Brooklyn 24, N. Y., has introduced to the marine field a completely portable radiotelephone, its Sonafone. Reported to be the first portable marine radiotelephone that the FCC will license mobile, its owner can operate this unit on his own or any other boat.

The Sonafone is a self-contained two-way communication unit weighing about 19 lbs., and is enclosed in a case 12" in its largest dimension. It has a rechargeable battery, will operate on any channel between 2 and 3 Mc., and has a range of from 5 to 30 miles with its own built-in antenna.

The 4-watt Sonafone has 4 channels and a push-to-talk system. Flipping a switch converts it to a 2-watt public address unit. The Sonafone is crystal-controlled, both receiver and transmitter, to cover the telephone, Coast Guard and two ship-to-ship frequencies. By using a larger antenna, greater range up to 50 miles can be attained.

Device for Charting Courses

The Guest Chartmaster for commercial navigators, with transparent blue-white plexiglass rules and a unique sliding action device, has been made available through marine dealers by the National Service Sales Corp., 381 Fourth Ave., New York 16, N. Y. Use of highly-polished plexiglass, which permits the navigator to see accurately, and the new sliding knee action make the Chartmaster one of the first improved parallel rules in more than 30 years.

It was pointed out that users of the device can now, in most cases, chart a course with only one movement of the Chartmaster. The metal parts of the device are accurately machined brass with a satin chrome finish. The ruler is designed for life-time use.

Fairbanks-Morse Opens New Pump Plant

A new and modern pump plant at Kansas City, Kansas, was formally dedicated and opened to the public by Fairbanks, Morse & Co. in a four-day ceremony from May 19 through May 22. Types of pumps made at the new plant are those described technically as built-togethers, side suction, trash, angle-flow, split-case, and steam and power reciprocating. Also manufactured at Kansas City are Fairbanks-Morse "Z" engines which range from 2 to 30 hp.

Edo Boosts Production of Fishscopes

In announcing the shipment May 19 of Edo's fiftieth Fishscope, Paul Minthorn, manager of marine equipment sales for the Edo Corporation, reported that production has been boosted to two of the electronic fish-finders per day at the College Point, L. I., plant. According to Mr. Minthorn, the Fishscope has proved successful in pinpointing the location of fish, even at times and in places where fish traditionally "just weren't".

The first Fishscope installation was made in the Surf, General Foods fishing boat based at Rockland, Me. Since that installation, Fishscopes have been put on other boats operating out of the East Coast ports of Norfolk, Va., New York, Stonington, Conn., Boston and Gloucester, Mass. and Portland, Me. Eight Fishscope installations also have been made on the West Coast, at Seattle, Wash., Astoria, Ore. and Eureka, Calif.

With the dial in one position, the Fishscope spots schools of fish at any depth from zero to 250 fathoms. A turn of the dial then narrows the field to the 10-fathom sector in which the fish are located and magnifies this sector 25 times.

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WORLD'S BEST BUYS IN MARINE ENGINES

for fishing boats, work boats
—for any commercial use!

Model B, 60 h.p.

Model K, 95 h.p.

Model M, 130 h.p.

Model W, 160 h.p.

Horsepower for horsepower, you can't buy a better marine engine for smooth, dependable operation and more years of hard service at low upkeep cost than a compact, power-packed Chris-Craft! Read what this user says:



Joe Fox

"My partner, Ken Frink, and myself built our new sport fishing boat *Pronto* last April, 1953," writes Joe Fox, Newport Beach, Calif. "She is 45 feet long, with a 14-foot beam, and a 25-passenger capacity. Because the fishing holes are some distance from our home port, we wanted a boat that was fast and dependable. So we chose a pair of Chris-Craft engines for our power units. We have been very happy with our choice. *Pronto* is one of the fastest boats of the fleet along the Southern California coast. Some 80-odd trips—averaging 50 miles per trip in the open sea—have proved the dependability of our Chris-Craft engines."

Chris-Craft Marine Engines are available in 60, 95, 105, 120, 130, 131, 145, 158 and 160 h.p. with reduction drives, opposite rotation and Chris-O-Matic for most models. See your Chris-Craft Dealer or mail coupon for catalog today! Buy NOW!

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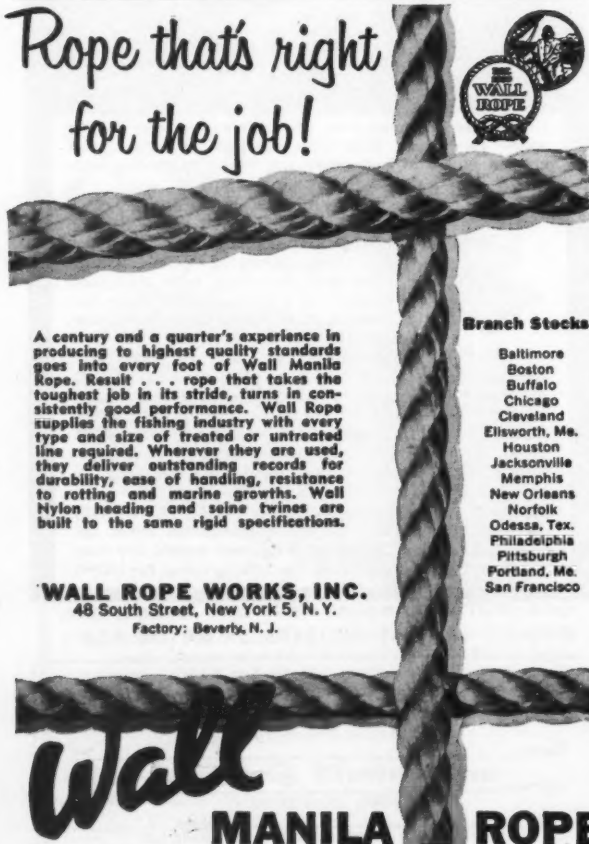
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Irene K of Fort Myers, Fla.
Miss Betty J of Punta Gorda, Fla.

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H. MARSHALL OLIVER, Sales and Service Mgr.

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San Francisco

Fish Landings

For Month of May

Hailing fares. Figure after name indicates number of trips.

PORTLAND

Alice M. Doughty (1)	42,000	Marie H. (1)	2,900
Alice M. Doughty II (3)	63,900	Mary & Helen (5)	17,300
Andarte (3)	170,500	Mascot (1)	16,500
Annie Louise (5)	36,300	M. C. Ballard (3)	310,700
Araho (2)	103,200	Median (1)	260,000
Ariel (9)	61,300	Monte Carlo (1)	600
Batavia (1)	200,400	Nora D. Sawyer (2)	7,000
Carmella & Lois (3)	21,100	Norland (2)	7,000
Carolyn & Priscilla (1)	32,000	Onward III (4)	37,500
Cathy & Aldie (5)	48,200	Pocahontas (2)	246,000
Challenger (12)	12,700	Polaris (2)	204,000
Courier (2)	323,000	Quincy (2)	358,800
Crescent (12)	31,700	Rebecca (2)	25,000
Dart (9)	28,900	Rebecca II (3)	47,000
Dora & Peter (3)	8,800	Resolute (2)	93,900
Dorchester (1)	55,000	Rhode Island (1)	75,000
Elinor & Jean (3)	100,100	St. George (1)	201,500
Etheina (3)	200,600	Sea King (2)	113,200
Flow (1)	73,400	Silver Bay (2)	335,000
Gaetano S. (1)	112,700	Theresa R. (2)	153,000
Gretchen & Dale (2)	2,800	Vagabond (3)	112,200
Gulf Stream (2)	434,200	Vandal (3)	201,700
Jeanne D'Arc (1)	100,000	Vida E. (5)	43,500
John J. Nagle (1)	104,500	Vida E. II (5)	57,200
Kennebec (4)	128,300	Voyager (3)	155,300
Lawrence Scola (4)	14,000	Wawenock (2)	475,000
Lawson (2)	122,000	Winthrop (2)	372,000
Little Growler (1)	80,000		

Scallop Landings (Lbs.)

Adele K. (1)	13,484	Mary & Julia (1)	14,750
Gambler (1)	13,919		

NEW BEDFORD

Adventurer (5)	62,300	Lera G. (2)	36,900
Anastasia E. (2)	44,000	Louis A. Thebaud (3)	90,500
Annie Louise (5)	49,500	Madeline (2)	16,400
Annie M. Jackson (3)	39,000	Mary & Joan (2)	71,800
Antonina (3)	42,300	Mary E. D'Eon (2)	62,000
Arnold (1)	9,400	Mary Tapper (2)	83,500
Arthur L. (3)	61,500	Mildred & Myra (1)	11,700
Automatic (2)	11,200	Molly & Jane (2)	23,100
Barbara (1)	11,100	Muskegon (3)	53,800
Barbara & Gail (2)	57,000	Nancy Jane (3)	102,400
Barbara M. (2)	30,000	Noreen (2)	93,200
Carl Henry (2)	60,000	Pauline H. (3)	195,700
Charlotte G. (3)	50,300	Phyllis J. (4)	52,200
Chas. E. Beckman (4)	43,700	Question (3)	11,500
Christina J. (2)	69,500	Reliance (3)	14,200
Christine & Dan (4)	37,600	Roann (2)	45,500
Connie F. (2)	80,300	Robert Ann (2)	48,600
C. R. & M. (2)	29,000	Rosemarie V. (3)	75,400
Dauntless (2)	29,800	R. W. Griffin (1)	65,000
Driftwood (3)	15,900	St. Ann (1)	30,000
Ebenezer (1)	2,600	Sea Fox (5)	52,500
Elva & Estelle (3)	37,500	Sea Hawk (2)	32,500
Ethel C. (3)	97,000	Sea Hawk (Boston) (1)	24,000
Eugene & Rose (2)	37,100	Shannon (3)	61,400
Eunice-Lillian (3)	118,500	Solveig J. (3)	151,600
Falcon (3)	84,800	Stanley B. Butler (4)	289,800
Felicia (2)	88,100	Sunbeam (1)	23,500
Gladys & Mary (3)	135,400	Susie O. Carver (5)	41,200
Growler (2)	63,900	Teresa & Jean (1)	42,400
Harmony (1)	20,000	Three Bells (2)	10,000
Invader (4)	105,400	Two Brothers (5)	49,400
Ivanhoe (3)	84,300	Venture 1st (3)	132,200
Jacintha (2)	98,700	Victor Johnson (2)	41,200
J. Henry Smith (4)	23,100	Viking (6)	167,400
Jimmy Boy (3)	46,000	Whaler (3)	115,000
Joan & Ursula (3)	106,200	Winfred M. (3)	23,600

New Bedford Scallop Landings (Lbs.)

Agda (2)	19,050	Linus S. Eldridge (3)	32,500
Aloha (2)	22,000	Louise (3)	33,000
Alpar (2)	22,000	Lubenray (2)	22,000
Amelia (3)	33,000	Malene & Marie (2)	21,900
Babe Sears (2)	14,100	Major J. Casey (2)	21,400
Bobby & Harvey (2)	20,600	Maridor (2)	22,000
Bright Star (2)	22,000	Marmax (3)	33,000
B. Estelle Burke (1)	9,500	Mary Anne (2)	20,300
Carol & Estelle (2)	21,500	Mary Canas (1)	1,000
Catherine & Mary (2)	22,000	Mary J. Hayes (3)	33,000
Charles S. Ashley (2)	22,000	Mary J. Landry (2)	22,000
Dartmouth (3)	33,000	Mary R. Mullins (3)	33,000
David A. (1)	11,000	Moonlight (3)	35,000
Debbie & Jo-Ann (2)	22,000	New Bedford (2)	22,000
Doris Gertrude (2)	22,000	Newfoundland (3)	33,000
Eleanor & Elsie (2)	22,000	Olive M. Williams (2)	22,200
Elizabeth N. (3)	33,000	Pearl Harbor (2)	22,000
Empress (2)	22,000	Pelican (2)	22,000
Fairhaven (3)	33,000	Porpoise (2)	22,000
Flamingo (2)	22,000	Red Start (2)	22,000
Fleetwing (2)	22,000	Richard Lance (1)	10,500
Friendship (3)	33,000	Rosalie F. (1)	11,000
Gambler (1)	4,500	Ruth Moses (2)	13,200
Ida K. (2)	22,000	Sea Ranger (2)	22,000
Janet & Jean (2)	21,500	The Friars (1)	11,000
Jerry & Jimmy (2)	22,000	Ursula M. Norton (3)	33,000
John G. Murley (3)	33,000	Vivian Fay (2)	16,500
Josephine & Mary (2)	22,000	Wamsutta (3)	33,000
Kingfisher (3)	33,000	Wm. D. Eldridge (2)	15,500
Lauren Fay (2)	21,500	Wm. H. Killigrew (3)	33,000

BOSTON

Acme (3)	20,700	Maria Giuseppe (9)	13,000
Addie Mae (4)	27,900	Mary & Jennie (2)	12,700
Agatha (3)	157,200	Michael G. (4)	41,300
Agatha & Patricia (3)	113,500	Michigan (3)	408,600
Alphonso (5)	33,200	Mother Frances (1)	46,700
Angie & Florence (4)	65,900	Nancy B. (3)	97,500
Annie & Josie (1)	2,000	Nautilus (3)	196,600
Arlington (2)	240,100	Neptune (3)	229,300
Atlantic (2)	143,500	Notre Dame (4)	131,100
Ave Maria (4)	34,600	Novie (11)	10,700
Bay (3)	296,400	Ohio (1)	53,300
Bonnie (2)	237,000	Olympia (4)	114,800
Bonnie Billow (1)	78,500	Olympia La Rosa (4)	200,600
Bonnie Breaker (3)	185,800	Pam Ann (3)	206,200
Bonnie Breeze (3)	274,800	Patty Jean (2)	311,000
Bonnie Jean (4)	6,800	Phantom (2)	375,500
Bonnie Lou (3)	214,700	Pilgrim (1)	134,500
Brighton (2)	186,900	Plymouth (3)	234,200
Cambridge (2)	253,600	Princess (2)	23,100
Carmela Maria (3)	43,800	Racer (2)	264,900
Catherine B. (3)	14,200	Red Jacket (2)	234,500
Charlotte G. (1)	22,200	Roma (3)	21,200
Comet (3)	275,300	Rosa B. (2)	162,200
C. R. & M. (2)	27,300	Rosalie D. Morse (2)	154,700
Crest (1)	94,000	Rose (1)	14,700
Elizabeth B. (2)	140,600	Rosemary (2)	17,000
Estrela (2)	144,300	Rosie (3)	34,800
Flying Cloud (2)	234,800	Rush (3)	199,500
4C688 (3)	8,500	Sacred Heart (4)	26,000
Geraldine & Phyllis (3)	102,700	St. Anna (4)	29,800
Jacinta (1)	86,000	St. Providence (7)	10,500
Jane B. (2)	113,000	San Calogero (4)	36,900
J. B. Junior (3)	286,900	Santa Maria (4)	165,500
J. B. Junior 2nd (4)	31,300	Santa Rita (3)	10,600
Joe D'Ambrosio (2)	16,700	Santina D. (2)	15,600
Josephine F. (4)	10,500	Sunlight (1)	146,500
Josephine P. II (1)	47,300	Swallow (3)	280,600
Katie D. (2)	140,200	Teresa & Jean (2)	113,200
Leonard & Nancy (3)	128,500	Texas (3)	192,200
Leonarda (4)	10,400	Thomas D. (3)	91,100
Liberty Belle (3)	32,200	Thomas Whalen (2)	133,200
Linda & Warren (1)	12,000	Triton (2)	188,200
Lucky Star (2)	152,800	Villanova (3)	184,000
Mabel Mae (3)	193,900	Virginia (1)	193,100
Maine (2)	331,000	Weymouth (3)	243,600
Manuel F. Roderick (2)	89,800	Wm. J. O'Brien (2)	148,600
Maria Christina (6)	7,000	Winchester (3)	364,500
Maria Del S. (2)	10,300	Wisconsin (2)	210,700
		Yankee (1)	16,900

NEW YORK

Buzz & Billy (1)	18,800	Florence B. (1)	22,000
Carol Jack (1)	26,500	Miriam A. (1)	24,600
Catherine C. (1)	18,000	S. No. 31 (1)	27,000
Scallop Landings (Gallons)			
Beatrice & Ida (2)	2,475	Nellie Pet (2)	2,910
Carol-Jack (1)	1,225	Norseman (2)	2,400
Catherine C. (1)	1,100	Reid (1)	900
Enterprise (2)	2,400		

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- ★ **EXTRA PROFITS FOR YOU**—Big catch by experts for over 60 years keeps profits up by reducing loss.



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Acme (1)	16,000	Little Joe (8)	168,000
Addie Mae (1)	16,000	Lucy Scola (6)	101,500
Admiral (2)	153,000		
Alden (2)	33,000	Madame X. (6)	15,000
American Eagle (3)	99,000	Madonna Di Siracusa (6)	40,000
Anna Guarino (11)	41,500	Manuel P. Domingos (2)	310,000
Annie (11)	26,000	Manuel F. Roderick (1)	110,000
Annie & Josie (3)	10,500	Margaret Marie (5)	104,000
Anthony & Josephine (8)	94,500	Margie L. (2)	35,000
Ave Maria (2)	145,000	Maria Immaculata (8)	256,000
		Marion & Alice (2)	232,000
Baby Rose (2)	180,000	Maris Stella (1)	155,000
Bobby & Jack (2)	200,000	Mary (12)	52,500
Bonaventure (2)	310,000	Mary E. (5)	13,000
		Mary Jane (2)	340,000
California (5)	189,000	Mary Rose (1)	170,000
Cara Cara (1)	125,000	Metacomet (3)	42,000
Carlansul (9)	67,500	Michael F. Dinsmore (1)	107,000
Carlo & Vince (6)	199,000	Minkette 1st (10)	14,500
Catherine (6)	9,000	Mother Ann (1)	220,000
Catherine Amiraunt (1)	165,000		
Catherine B. (7)	215,500	Natale III (6)	185,000
Charlotte M. (2)	255,000	No More (8)	19,000
Cigar Joe (4)	81,000	Novelty (10)	47,100
Clipper (1)	150,000	Nyoda (4)	162,000
Columbia (2)	342,000		
Curlew (2)	336,000	Ocean Clipper (2)	142,000
		Ocean Life (1)	370,000
Dawn (9)	29,000	Ocean Wave (2)	205,000
Diana C. (4)	133,000	Our Lady of Fatima (2)	360,000
Dolphin (2)	203,000		
Doris F. Amero (2)	126,000	Peggie Belle (1)	1,500
		Philip & Grace (2)	253,000
Eagle (1)	140,000	Pilgrim (1)	150,000
Eddie & Lulu M. (8)	14,000	Pilhasca (7)	209,000
Edith L. Boudreau (2)	190,000	Pioneer (2)	48,500
Eleanor (4)	120,500	Priscilla (1)	1,000
Emily H. Brown (2)	318,000	Providenza (1)	2,500
Eva II (10)	27,500	Puritan (1)	120,000
Evelina M. Goulart (2)	177,000		
		Raymonde (3)	176,000
Falcon (10)	109,500	Rose & Lucy (3)	132,000
Florence & Lee (2)	360,000	Rosemarie (4)	74,000
Flow (2)	450,000	Rosie & Gracie (4)	116,000
Frances R. (4)	62,000		
Francis L. MacPherson (2)	252,000	Sacred Heart (11)	55,300
Frankie & Jeanne (6)	22,000	St. Anthony (2)	301,500
		St. Francis (5)	144,000
Gaetano S. (1)	133,000	St. George (1)	200,000
Gertrude E. (1)	2,000	St. John (9)	30,700
Giacoma (10)	22,500	St. Mary (6)	125,500
Golden Eagle (1)	135,000	St. Nicholas (2)	312,000
		St. Peter (2)	70,000
Hazel B. (2)	240,000	St. Peter II (1)	166,000
Helen B. (1)	12,500	St. Providence (9)	40,500
Hilda Garston (1)	130,000	St. Stephen (5)	57,500
Holy Family (2)	335,000	St. Therese (4)	72,500
Holy Name (6)	153,500	St. Victoria (3)	195,000
		Sea Rambler (1)	40,000
Ida & Joseph (3)	141,000	Sebastina C. (4)	202,000
Immaculate Concept'n (5)	127,000	Serafina N. (6)	136,000
Irma Virginia (1)	4,000	Serafina II (6)	159,000
		Sister Ann (1)	150,000
Jackie B. (3)	142,000	Stella Maris (5)	77,500
Jackson & Arthur (8)	29,200	Sunlight (1)	127,000
Jennie & Lucia (2)	88,000	Sylvester F. Whalen (2)	330,000
Johnny Baby (1)	6,000		
Jorgina Silveira (2)	119,500	Theresa M. Boudreau (1)	223,000
Joseph & Lucia (2)	314,000	Tina B. (2)	216,000
Joseph S. Mattos (2)	350,000	Trimembral (4)	30,000
Josie II (11)	40,500		
Judith Lee Rose (2)	614,000	Veronica N. (5)	12,500
		Villanova (1)	155,000
Kelpie (1)	500	Virginia Ann (4)	105,500
Killarney (2)	340,000		
Kingfisher (2)	400,000	We Three (4)	18,500
		White Owl (11)	27,500
Lady of Good Voyage (3)	307,000	Whitstone (1)	50,000
Linda B. (5)	35,000	Wild Duck (2)	288,000
Little Flower (6)	101,500		

Scallop Landings (Lbs.)

Brother Joe (3)	16,500	Cap'n Bill 2nd (2)	10,000
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STONINGTON, CONN.

America (3)	2,200	Irene & Walter (16)	18,900
Averio (10)	5,600	Jane Dore (17)	15,600
Baby II (1)	800	Laura (12)	2,700
Bette Ann (11)	14,200	Lisboa (16)	12,300
		Little Chief (15)	11,600
Carl J. (8)	5,800	Lloyd Chapman (3)	600
Carolyn & Gary (16)	13,000		
Catherine (15)	8,200	Marise (18)	23,000
Chas. Fellows (6)	1,600	Mary A. (15)	13,400
Connie M. (16)	22,800	Mary H. (13)	6,200
Eleanor (6)	1,100	Old Mystic (18)	12,100
Fairweather (19)	39,500	Pete Lesniewski (3)	600
Five Sisters (2)	1,000	Pete Tryon (1)	200
Fred Marozzi (2)	400		
		Theresa (1)	200
G. S. Main (1)	100	William B. (16)	25,400

WOODS HOLE

Cap'n Bill (1)	39,200	Little Lady (4)	7,800
Cap'n Bill II (1)	89,000	Madeline (1)	6,000
Clara C. (1)	800	Morning Star (4)	6,300
Eugene H. (3)	124,800	Priscilla V. (3)	49,600
Gertrude D. (2)	11,300	Question (1)	3,700
Julie K. (1)	800	Viking (1)	1,700
Kelbarsam (1)	4,300		

Scallop Landings (Lbs.)

New Bedford (1)	10,125	Palestine (2)	19,269
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Shrimp Research Needed

(Continued from page 22)

Bureau of Fisheries, began further exploratory fishing with two boats during July and August of 1938 to determine whether commercial quantities of shrimp could be located along the Maine coast during the Summer.

One small boat, the *Flora C.*, made 55 tows at depths of 43 to 102 fathoms, but was unable to locate any large amounts. The greatest catch was equivalent to 57 lbs. of shrimp per hour of dragging and was made at 67 fathoms. The average catch was about 8 lbs. per hour. The *Mina J.*, another small fishing boat, dragged in depths of less than 55 fathoms along the coast of Maine, but was similarly unsuccessful. From these experiments it was concluded that shrimp fishing did not seem profitable in Maine during the Summer months.

In the following shrimp season, the Winter and early Spring of 1938-39, the fishery was rather dormant. Portland, Maine boats which had dragged for shrimp in 1938 had become engaged in the rosefish fishery. A further deterrent to a Portland shrimp fishery was that no ready market for large catches of shrimps existed in that city, which still had an available supply of frozen shrimp from catches made between February and April 1938.

In 1939, several hundred pounds of shrimp were caught near Mount Desert Island, Maine, and about a thousand pounds were taken near Portland. The bulk of the fishery was carried on by smaller boats in the New Harbor, Maine, area. This region has been the producer of Northern shrimp caught in Maine since 1939.

Many of the shrimp fishermen in the vicinity of New Harbor were those ordinarily engaged in the lobster or herring fisheries. As the herring season in western Maine usually extends from May to December and the lobster fishery is most productive during the same period, shrimp fishing provided the fishermen with a supplementary activity between January and April. A typical boat used to drag for shrimp was about 25 or 30' long, with a few small otter trawlers of 40' length or more occasionally engaged in this fishery.

Catches Limited by Demand

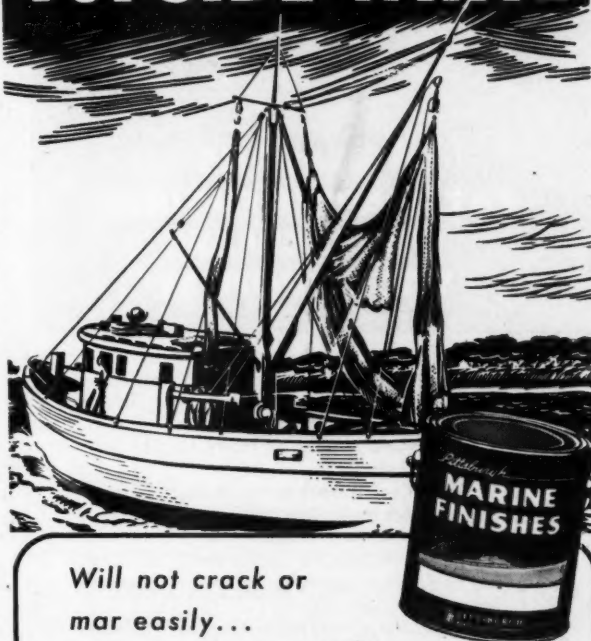
From 1939 to 1942, the catches of shrimp were largely limited by the demand. For example, a boat might catch 500 lbs. of shrimp, but three or four days might elapse before all could be sold and another trip made. Some fishermen would fish for several hours and then peddle their catches for the next few days in the neighboring towns until all of the shrimp were sold. Occasionally, the shrimp would remain unsold until they had to be dumped.

By 1941, an increased local demand for Maine shrimp had developed and larger quantities were being home-canned by consumers. While the catch rose to about 58,000 lbs. that year, there was still no ready market for all the shrimp which could be caught by the boats intermittently engaged in this fishery between January and April. But in 1942 there was a greater demand for shrimp for fresh consumption and home canning. The fishermen also had another outlet for their catches when a cannery at Friendship, Maine, began to process shrimps.

After 1942, the fishery expanded rapidly for the next few years. Several more canneries began processing shrimp, and quantities of whole shrimp and shrimp tails

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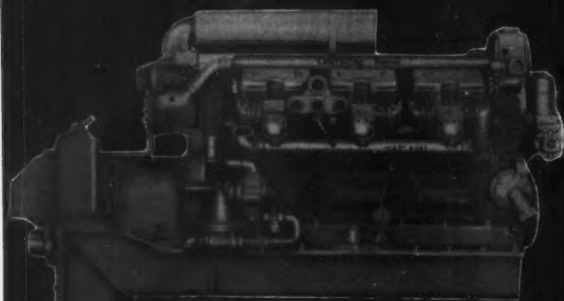


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also were quick-frozen. By 1944, the fishery was no longer limited by the demand, but instead was governed by the supply available to the fishermen. This condition has prevailed to the present.

When the market began to absorb all the catches after 1943, fishing activities increased. The fishermen operated longer hours and made larger catches. Daily landings of 2,000 lbs. per boat were not rare, and as high as 3,000 lbs. were taken on some one-day trips. It was natural that these successful operations would attract more fishermen, and consequently the fleet expanded until 1944, when 25 boats were dragging on the five principal Maine shrimping grounds. In 1945, a further increase occurred and the fleet numbered 31 boats.

In 1946 and subsequent years, the large masses of shrimp so prevalent in earlier years were not located on the customary grounds, and the fleet declined in both numbers and activity. During 1949, another poor year, only about 12 boats fished intermittently during the season. There were, however, at least 25 boats which would have operated if profitable catches could have been made.

The fishing gear and methods used in the Northern shrimp fishery were not greatly different than those used in otter-trawling operations. The size and power of the boats governed the size of the net. A net in common usage was one with a 40' footrope. The stretched-mesh size in the cod end and in part of the back and belly of the net was 1½". The remainder of the net, including the wings, had a 2½" mesh.

Many of the nets were equipped with wooden rollers on the footrope. Others had loops of chain suspended on the footrope. Fishing was carried on during the daylight hours at depths of about 20 to 40 fathoms. Night trawling was not tried, because the boats were not equipped with flood lights for working at night and the grounds were located with reference to landmarks not visible at night.

The towing speed was about 1½ to 2 miles per hour. While speeds up to 4 miles per hour capture more fish, they are evidently less efficient in catching shrimps. Ropes, with or without bridles, were commonly used to tow the nets, although wire towing lines were used by several of the larger boats.

Probable Reasons for Decline in Abundance

A most intriguing question is why so few shrimp have been found during the past several years on the formerly productive shrimping grounds. There is not enough information available to evaluate the probable reasons for this phenomenon; several factors may have influenced the availability of these crustaceans.

First, it is likely that the shrimp populations are subject to cyclic fluctuations, and the bottom of the cycle may now be at hand. This fishery is of such recent origin that evidence of cyclic abundance cannot be substantiated.

Second, instead of migrating inshore to the known fishing areas in February to April, the shrimps may now be appearing on other areas not yet exploited. Until extensive experimental fishing operations are carried out along the Maine coast little will be known of the distribution of the shrimp, and therefore, scientists will have no idea whether or not annual migrations are erratic.

Third, there is the possibility that overfishing has occurred. If the decline in the yield of the Maine fishery in the four shrimping areas has been caused by the catching of too many mature shrimp, this would indicate that the shrimp populations in those waters were not a part of a homogeneous Gulf-of-Maine population, but instead represent one or more independent stocks. It would be difficult to imagine that the fishery for shrimp along the Maine coast would seriously affect the abundance of a single, large Gulf-of-Maine population.

Fourth, since shrimp are associated with rosefish in deep water for a greater part of the year, it is probable that many of the shrimp, both large and small, are damaged in the rosefish nets before they can escape through the cod ends. This resultant drain on the shrimp population might be much greater than realized.

New Bedford Seafood Catch Shows Drop in April

As a result of the fact that a number of vessels have been shrimping in the South and many boats have been landing at Point Judith, R. I., fish production at the port of New Bedford totaled only 6,451,480 lbs. during April, compared to 7,261,140 lbs. during April, 1953. These figures are based on the hail of vessels, as compiled by George Snow of the Fish & Wildlife Service.

The total hail included 142,900 lbs. cod, 1,177,900 lbs. haddock, 194,200 lbs. blackback, 131,700 lbs. dab, 316,500 lbs. fluke, 32,600 lbs. grey sole, 101,500 lbs. lemon sole, 184,800 lbs. yellowtail, 530,800 lbs. tilefish, 46,700 lbs. of all others, 1,467,900 lbs. sea scallops and 2,124,480 lbs. trash fish. The scallop hail in 1953 for April was 973,800 lbs.

"Priscilla V." Doing Redfish Research

The *Priscilla V.*, the Woods Hole dragger owned and captained by Jared L. Vincent, has returned from her third charter trip for the Woods Hole laboratory of the Fish & Wildlife Service. Each time she has sailed to a point about 25 miles east of Gloucester to drag for redfish at 50 fathoms.

Robert S. Wolf and George F. Kelly, both fisheries research biologists, have followed through on the *Priscilla V.* a year-long experiment to determine growth rate of redfish. Mr. Wolf has charge of the program of study pertaining to the age and growth rate of redfish, while Mr. Kelly heads the complete program of redfish study.

In the experiment, the samplings of the smaller redfish were taken at periodic intervals with 200 to 600 specimens each time, depending on their availability. Great care was exercised to see that the fish were taken from the same geographical point.

Short Lobsters Dumped in Harbor

Approximately 500 short lobsters were dumped into Wellfleet Harbor last month. It was believed to be the first time such quantities have been brought to the port for growing and propagating.

Selectman Frazier said the lobsters were part of those the State has received from commercial companies. He said he expected the shellfish would grow to legal size in about two months.

Provincetown Fleet Blessing Date Changed

The 7th annual Blessing of the Provincetown Fishing Fleet will be held July 4, as a one-day affair. The Most Rev. James L. Connolly of Fall River will officiate.

Indonesians Studying Fisheries

Studying methods of the fisheries along the shores of the United States is a team of Indonesian fisheries officials, two of whom were in Provincetown last month. They toured the cold storage plants, observed removal of fish, packing and shipping, and took a trip with the trap fishermen.

Vessels Get New Owners

Frank J. Scafani of Boston and Dominic Catanzaro of Everett are the new owners of the 80 ft. fishing vessel *Magellan*, sold at auction recently. Ernest J. Flood was high bidder for the scalloper *Abram H.* sold at auction in Fairhaven last month.

Depth Sounder Installed

A Wilfrid O. White SurEcho depth sounder has been installed aboard the dragger *Automatic* of New Bedford. She is skippered by William Pike.

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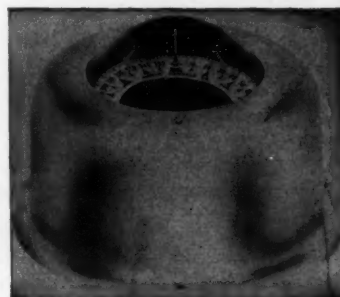
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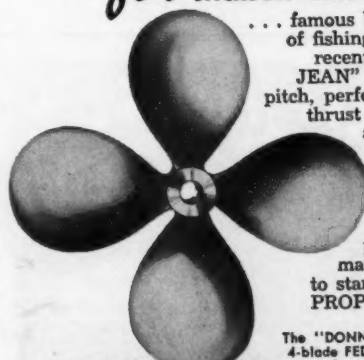
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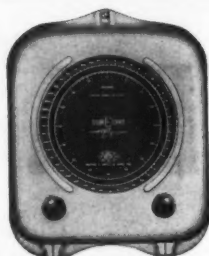
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"Peerless" Is 50th Trawler

(Continued from page 31)

pump, and the 32-volt, 750-watt light plant. The 1¼" Jabsco bilge pump is driven by front power take-off.

Other equipment on the *Cajun* includes Stroudsburg 515½T, 3-drum hoist, Southland batteries and 50R North-hill anchor. The new shrimper has 8" mast, 5" boom, 1" turnbuckles, ⅝" turn plates, and ¾" galvanized stay rods. International paint was used on the exterior of the *Cajun*.

Next boat to be delivered by Conrad Industries will be the 65' semi-deluxe trawler *Saratoga*, which will leave the yard the first week in June. A duplicate of the *Cajun*, the *Saratoga* is owned by Capt. Odrey P. Smith and O. D. Henslee of Corpus Christi, Tex., and will operate from Brownsville. She is powered by a D337, 107 hp. Caterpillar Diesel with 4.4:1 Snow-Nabstedt reduction gear.

Scheduled for June 15 launching is another 65' semi-deluxe vessel, the *Mom and Dad*, built for Capt. Charles Huertevent of Delcambre, La. This shrimper will have a 6-110 General Motors 205 hp. Diesel, and will operate from Corpus Christi. Both the *Mom and Dad* and *Saratoga* are equipped with Model 515½ Stroudsburg hoists.

Now under construction at the Conrad yard is a 70' deluxe trawler for Capt. Harold Barras of Delcambre, to be powered with a 6-110 General Motors Diesel.

Texas Shrimpers Hindered By Windy Weather

Gulf coast weather was generally unfavorable for shrimping during the 30-day period preceding May 25. Very windy weather prevailed all along the coast from the Sabine on the northeast to the lower coast of Mexico. Bay trawling was affected as well as deep-water fishing, not only by the weather but by lower prices paid boatmen. The total production of shrimp was 13,250 barrels as compared with 13,748 barrels for the previous 30 days.

Production of marine products during the first seven months of the current fiscal year was 63,597,973 lbs., as compared with 48,924,081 lbs. for the same period of the previous fiscal year. Shrimp landings were 40,744,342 lbs. for the current year, as against 34,846,386 lbs.

Oyster production for the seven-month period was 439,674 lbs. of meats, as compared with 239,120 lbs. Edible finfish landings were 1,522,701 lbs. for the current year, as against 1,708,055 lbs. for the previous fiscal year.

Menhaden production was 20,876,400 for the period this year, as compared with 12,129,840.

Large Trout Plentiful

Ernest Simmons, marine biologist of the Texas Game and Fish Commission in the upper Laguna Madre has been tagging fish for the last four years. He reports that he never has seen as many large sow trout as this spring. Simmons tagged 36 large trout weighing six pounds and over in one day.

The biologist states that the lagoon water compares with the Gulf in salinity. He reported that the spawning grounds are well covered with vegetation, and that there is little red water. Drum tagging has been stopped temporarily since the water is teeming with small ones, and plenty of 3-pounders and larger.

"Captain Kidd" Given up as Lost

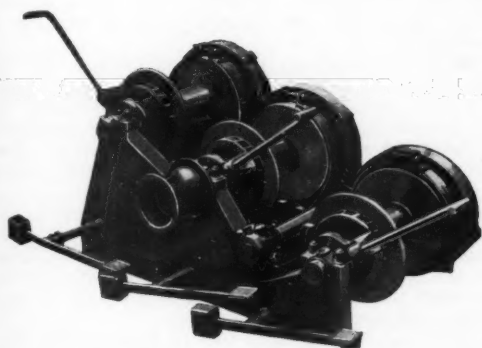
The trawler *Captain Kidd*, owned by Hugh Jackson of Rockport and missing since April 26, has been given up as lost. The 60-ft. vessel, with a two-man crew, was making a routine trip in the Gulf.

The Coast Guard sent out a search vessel; the Naval Air Station at Corpus Christi sent planes, and all trawlers in the area were alerted to be on the lookout for the miss-

STROUDSBURG HOISTS on Four More

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"Peerless" • "Saratoga"
"Cajun" • "Mom and Dad"



Conrad's 50th trawler, the "Peerless", owned by Capt. Oscar Galjour of Aransas Pass, Texas, is Stroudsburg-equipped.

The four latest new shrimp trawlers to go down the ways at Conrad Industries in Morgan City, La., are equipped with Model 515½T, 3-drum Stroudsburg Hoists. The friction drums on Stroudsburg Hoists have ratchet, pawl and brakes with interwoven type linings, and are engaged by internal thrust cams with friction plates. Pinion shaft extension available for mounting engine drive in clockwise or counter clockwise rotation.

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ing trawler. Capt. Pat Roubidoux of Rockport and crewman Tommy Vickery of Aransas Pass were aboard.

Oppose Shell Price Increase

The proposal being considered by the Texas Game & Fish Commission to raise the price on oyster shells from 7 to 10 cents per cubic yard is meeting with opposition.

Some members of the Commission contend that since the price of shell is 10 cents in Mississippi, Alabama and Florida, and slightly higher in Louisiana, the price in Texas should be raised to an equal level. However, the shell producers claim there is a price level, just about reached already, beyond which shell is at a great disadvantage with its competitors like limestone and gravel.

Four Trawlers Near Completion

Four boats are now nearing completion at Jackson Marine Services, Inc. in Rockport. All are 65-ft. trawlers, including one for William Lasanen of Brownsville, one for A. D. Simpson of San Antonio and two for the B. J. D. L. Co., whose president is L. A. Ederer of Chicago.

No. American Marine Has Hercules Diesels

Hercules Motors Corp., Canton, Ohio, manufacturers of Hercules Marine Diesels, has appointed North American Marine Supply Co. of Falmouth, Mass., as distributor for Massachusetts, Rhode Island, New Hampshire and Maine.

Captain John Peterson, who has had more than 25 years of experience in the marine field, is president of North American Marine Supply. William G. Hawkins, formerly District Representative for Nordberg Mfg. Co., is vice-president in charge of sales for the Hercules line.

According to North American Marine Supply officials, service points, manned by factory-trained personnel, will be established at key locations in their area. A branch office has been opened at Second Avenue, South Portland, Maine.



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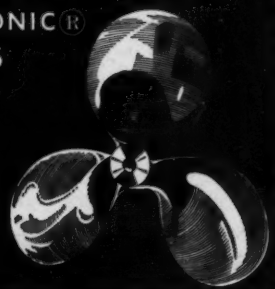
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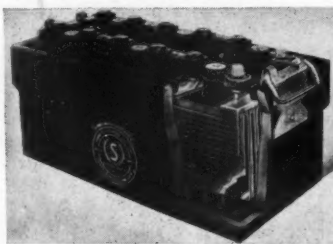
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Canadian Report

By C. A. Dixon

Sardine Prospects Look Promising

Toward the last of May sardines struck in many or practically all sections of the southern New Brunswick coast and the outlying islands, although the catches made in weirs were comparatively small. The fish in some places were of excellent oil size and in others small or of the mixed variety.

It is expected, however, that larger catches will be made the first of June as signs offshore indicate the presence of greater quantities of fish. In some places the fish are being rounded up by squid and codfish. The predators usually drive the sardine schools into St. Andrews Bay where already limited quantities are being taken in the weirs.

The sardines for the most part are being sold to the Canadian factories at Black's Harbor, Back Bay, Campobello and Deer Island, but some of the eastern Maine factories are open. If a steady run of sardines develops it is expected that the demand in Eastport, Lubec and other Maine towns will become greater.

Taken all around the outlook for the 1954 sardine season looks bright, a lot brighter than it has been in recent years at the same time in the Spring. Good catches of sardines have been made at Grand Manan farther out in the Bay of Fundy, which indicates a fish movement of greater proportions than has been the case in recent years early in the season.

Draggers Doing Well

Draggers and longliners both have been doing well during the last few weeks in the Bay of Fundy area, catches of groundfish having been more steady than for quite some time past. Pollock fishermen, too, have been getting some fish. Campobello seiners have made large hauls in the St. Mary's Bay area on the Nova Scotia side of the Bay. The first pollock landings made in May were sold for 20 cents each at Wilson's Beach.

Clams Bring High Price

Clam diggers in the Southern New Brunswick area are finding the bivalves scarce, but they manage to work up a day's pay due to the price being received for their product—\$12 a barrel. Not a great many years ago, fishermen received only 75 cents or at most \$1 a barrel for clams, and many times were unable to sell their shellfish at any price. Today, in some sections people have found it difficult to obtain any clams, even in regions where the shellfish were once abundant and of excellent size.

Herring for Smoking

Considerable quantities of stringing herring were brought to Grand Manan in May for smoking in the numerous herring plants, where much needed employment was made available for many workers. The herring were obtained at Shediac, N. B. on the Northumberland Strait shore and were transported overland to southern New Brunswick by motor trucks, then reshipped to Grand Manan Island in motor vessels.

Lobstering Improves

Following a poor start in the 1954 Spring lobster fishing season lobstermen in the southern New Brunswick area were doing a little better in some sections as June arrived. For a time fishermen were worried over the scarcity of bait, but this trouble was dispelled when sardines appeared at Grand Manan and other centers early in May. There is plenty of bait now everywhere and it is expected that lobstering in June will show a decided improvement as the creatures crawl inshore.

Vineyard Bailings

By J. C. Allen

May has been a tough month in these latitudes. It isn't that the sea-skimmers of this neck of ocean are getting soft, but there is something as paralyzing as the devil about the appearance of Winter during some other season. And it has been cold, bleak, with plenty of wind the heft of the time.

The fish struck inshore on schedule. Blackbacks, some Summer fluke, and tautaug, these last critters working in until they were gnawing at the roots of the potato vines in the gardens. But there was no real body of fish up to the time this log was written.

Things shaped up much as they have done for some years; that is, the bottom seemed covered with fish but not very deep. Every man and his brother picked up something if he scraped around long enough. Pollock hit along toward the last of the month and cod ran on the inshore ledges but it seemed as if these fish were making passage and were bound on to some place or other.

Oddities, always present, seemed even more so last month. The gear a few miles to the West'erd of us was crammed full of scup. Maybe we would have got some too if we had any traps, but the only set is in Buzzards Bay and the scup seemed to steer clear of that.

We observe that some of our neighbors who ran to the Suth'erd after shrimp, hoping to get rich in a month or two, have returned, holding their heads a mite low and running shy of enthusiasm. We have never thought that we had any more brains than anyone else, and likely a whole lot less than some, but we are not surprised at all. In fact we predicted that it would work out just this way.

Slim Year for Lobstermen

It looks like another slim year for the lobstermen. Judging from what appears in print, every man and his cousin who go lobstering, are noticing a slackening-up. It stands to reason, as we see it, that nothing can stand the warm Winters and thrive as in the past. But be cussed and be blowed if we can see eye to eye with the plan of government as they have it laid out, to help the industry.

Research is fine. But exactly what in hell it can reveal more than is already known, we just can't guess. The question can be decided, we suppose, as to whether the fish and crustaceans have been exterminated or whether they have migrated. If they have migrated, it seems as if it can eventually be discovered where they have gone. But just how much good that will do is a problem. Suppose, for example, they have all crowded into the territorial waters of Denmark!

Messing with the Tariff

And the business of messing with the tariff seems likely to boomerang as we see it. Suppose the imports are cut. Can the domestic fishermen boost production and make up for this shortage? We are betting that they can't. And if they can't, the general result will be a hike in the retail price of fish. It can't be anything else and our guess is that the public just won't take it. Fish costs too damned much to the consumer already, which is one of the reasons why the per capita consumption of fish has dropped.

Suggests Eliminating of Fillets

As an ordinary individual, with few brains and no influence, we think just this. If the fishing industry is to be helped, the first thing and the best thing to do is cut out the filleting. Retail every cussed fish round. It would be a shock at first, but it would bring the retail price down and it might even bring the caplog price up a little. And it would prevent a sinful amount of waste. We do not see anything else in sight that offers as much promise.

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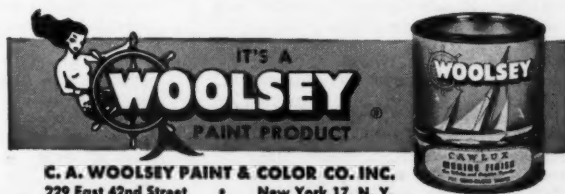
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Companies whose names are starred (*) have display advertisements in this issue; see Index to Advertisers for page numbers

AIR STARTING MOTORS

Ingersoll-Rand, 11 Broadway, N. Y. 4, N. Y.

ALARM SYSTEMS

Brown Alarm Mfg. Co., Inc., 1631 Filbert St., Baltimore 26, Md.

ANCHORS

Danforth Anchors, 2121 Allston Way, Berkeley, Calif.

*The Maxim Silencer Co., 126 Homestead Ave., Hartford 1, Conn.

*Northill Co., Inc., Los Angeles 45, Calif.

BATTERIES—Storage

Crescent Battery & Light Co., Inc., 819 Magazine St., New Orleans 12, La.

"Exide": Electric Storage Battery Co., 42 South 15th Street, Philadelphia 2, Pa.

*Surrette Storage Battery Co., Salem, Mass.

Willard Storage Battery Co., 246 East 131 St., Cleveland 1, Ohio.

BOOTS

United States Rubber Co., Rockefeller Center, New York, N. Y.

CANS

Continental Can Co., 100 E. 42nd St., New York, N. Y.

CLOTHING

The H. M. Sawyer & Son Co., Cambridge, Mass.

A. J. Tower Co., 24 Simmons St., Boston, Mass.

United States Rubber Co., Rockefeller Center, New York, N. Y.

COLD STORAGE

Quaker City Cold Storage Co., Philadelphia, Pa.

COMPASSES

John E. Hand & Sons Co., 243 Chestnut St., Philadelphia 6, Pa.

*Marine Compass Co., Pembroke, Mass.

Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

*Wilfrid O. White & Sons, Inc., 216 High St., Boston 10, Mass.

CORDAGE

American Manufacturing Co., Noble and West Sts., Brooklyn, N. Y.

Cating Rope Works, Inc., Maspeth, N. Y.

*Columbian Rope Co., Auburn, N. Y.

*The Edwin H. Fidler Co., Philadelphia 24, Pa.

New Bedford Cordage Co., 131 Court St., New Bedford, Mass.

Plymouth Cordage Co., Plymouth, Mass.

Tubbs Cordage Co., San Francisco, Calif.

*Wall Rope Works, Inc., 48 South St., New York 5, N. Y.

COUPLINGS—Marine

Morse Chain Co., 7001 Central Ave., Detroit 10, Mich.

DEPTH SOUNDERS

*Bendix Aviation Corp., Pacific Div., 475 Fifth Ave., New York 17, N. Y.

*Edo Corporation, College Point, L. I., N. Y.

Kaar Engineering Corp., Palo Alto, Calif.

*Raytheon Manufacturing Co., 138 River St., Waltham 54, Mass.

*Wilfrid O. White & Sons, Inc., 216 High St., Boston 10, Mass.

DIRECTION FINDERS

*Bludworth Marine, 92 Gold St., N.Y. 7, N.Y.

Kaar Engineering Corp., Palo Alto, Calif.

*Raytheon Manufacturing Co., 138 River St., Waltham 54, Mass.

ELECTRIC GENERATING PLANTS

D. W. Onan & Sons, Inc., University Ave. S.E. at 25th, Minneapolis 14, Minn.

ENGINES—Diesel

The Buda Co., 154th and Commercial Ave., Harvey, Ill.

Burmeister & Wain American Corp., 17 Battery Place, New York 4, N. Y.

Caterpillar Tractor Co., Peoria, Ill.

Cooper-Bessemer Corp., Mount Vernon, O.

*Cummins Engine Co., Columbus, Ind.

Detroit Diesel Engine Div., General Motors Corp., Series 51, 71 and 110 Marine Diesels, 13400 W. Outer Drive, Detroit 28, Mich.

Enterprise Engine & Machinery Co., 18th and Florida Sts., San Francisco 10, Calif.

*Fairbanks, Morse & Co., Chicago, Ill.

Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.

P&H Diesel Engine Division, Harnischfeger Corp., 100 Lake St., Port Washington, Wis.

Kernath Manufacturing Co., 5890 Commonwealth Ave., Detroit 8, Mich.

The Lathrop Engine Co., Mystic, Conn.

Murphy Diesel Co., 5317 West Burnham St., Milwaukee, Wis.

*The National Supply Co., Engine Division, Springfield, Ohio.

Nordberg Mfg. Co., Lincoln Bldg., 80 East 42nd St., New York 17, N. Y.

*H. O. Penn Machinery Co., Inc., East River and 140th St., New York, N. Y.

*Perkins-Milton Co., Inc., 376 Dorchester Ave., South Boston 27, Mass.

Red Wing Motor & Mfg. Co., Red Wing, Minn.

Scripps Motor Co., 5817 Lincoln Ave., Detroit 8, Mich.

*Wolverine Motor Works Inc., 1 Union Ave., Bridgeport, Conn.

ENGINES—Gasoline

*Chris-Craft, Marine Engine Div., Algonac, Mich.

Chrysler Corp., 12211 East Jefferson, Detroit, Mich.

Ford Marined Engines, 3627 N. Lawrence St., Philadelphia 40-AF, Penna.

Gray Marine Motor Co., 646 Canton Ave., Detroit, Mich.

Kernath Manufacturing Co., 5890 Commonwealth Ave., Detroit 8, Mich.

The Lathrop Engine Co., Mystic, Conn.

Nordberg Mfg. Co., Lincoln Bldg., 80 East 42nd St., New York 17, N. Y.

Red Wing Motor & Mfg. Co., Red Wing, Minn.

Scripps Motor Co., 5817 Lincoln Ave., Detroit 8, Mich.

ENGINES—Outboard

Evinrude Motors, 4760 N. 27 St., Milwaukee, 16, Wis.

Johnson Motors, 6300 Pershing Rd., Waukegan, Ill.

FILTERS

Fleck Engineering Co., Inc., 1631 Filbert St., Baltimore 26, Md.

FISHING GEAR

*The Harris Co., Portland, Me.

*Westerbeke Fishing Gear Co., Inc., 279 Northern Ave., Boston, Mass.

FLOATS

J. H. Shepherd Son & Co., Elyria, Ohio.

*The Sponge Rubber Products Co., Derby Place, Shelton, Conn.

GENERATING SETS

The Buda Co., 154th and Commercial Ave., Harvey, Ill.

Detroit Diesel Engine Div., General Motors Corp., Series 51, 71 and 110 Marine Diesels, 13400 W. Outer Drive, Detroit 28, Mich.

Hallett Mfg. Co., 1001 West Florence Ave., Inglewood, Calif.

Nap. J. Hudon, 40 Fish Pier, Boston, Mass.

GENERATORS

The Safety Car Heating & Lighting Co., Inc., Marine Div., P.O. Box 904, New Haven 4, Conn.

HEAT EXCHANGERS

Sen-Dure Products, Inc., Bay Shore 1, N. Y.

HOOBS

Auburn Fishhook Co., Inc., Auburn, N. Y.

O. Mustad & Son, Oslo, Norway.

*"Pfueger": Enterprise Mfg. Co., 110 Union St., Akron, Ohio.

INSULATION

"Styrofoam" (Expanded Dow Polystyrene): *The Dow Chemical Co., Midland, Mich.

LORAN

*Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.

Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

MOTOR GENERATORS

The Safety Car Heating & Lighting Co., Inc., Marine Div., P.O. Box 904, New Haven 4, Conn.

NETS

*W. A. Augur, Inc., 35 Fulton St., New York.

*Ederer Division, The Linen Thread Co., Inc., 540 Orleans St., Chicago, Ill.

The Fish Net & Twine Company, 310-312 Bergen Ave., Jersey City, N. J.

*The Heminway & Bartlett Mfg. Co., 500 Fifth Ave., New York 36, N. Y.

*The Linen Thread Co., Inc., 105 Maplewood Ave., Gloucester, Mass.

Moodus Net & Twine, Inc., Moodus, Conn.

Joseph F. Shea, Inc., East Haddam, Conn.

*A. M. Starr Net Co., 10 Summit Street, East Hampton, Conn.

Sterling Net & Twine Co., Inc., 164 Belmont Ave., Belleville, N. J.

OIL—Lubricating

*Esso Standard Oil Co., 15 West 51st St., New York 19, N. Y.

Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

Shell Oil Co., 50 West 50th St., New York 20, N. Y.

*Socony-Vacuum Oil Co., Inc., Marine Sales Dept., 26 Broadway, New York 4, N. Y.

PAINTS

The Federal Paint Co., Inc., 33 Rector St., New York 6, N. Y.

Henderson & Johnson, Inc., Gloucester, Mass.

International Paint Co., Inc., 21 West St., New York, N. Y.

George Kirby Jr. Paint Co., 14 Wall St., New Bedford, Mass.

*Pettit Paint Co., Belleville, N. J.

*Pittsburgh Plate Glass Co., Pittsburgh, Pa.

*C. A. Woolsey Paint & Color Co., Inc., 229 East 42nd St., New York 17, N. Y.

PROPELLERS

*Columbian Bronze Corp., Freeport, N. Y.

*Federal Propellers, Grand Rapids, Mich.

*Hyde Windlass Co., Bath, Maine

*Michigan Wheel Co., Grand Rapids, Mich.

PROPELLER SHAFTS

*The American Brass Co., Waterbury 20, Conn.

PUMPS

Jabco Pump Co., 2031 N. Lincoln St., Burbank, Calif.

RADAR

*Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.

*Raytheon Mfg. Co., 138 River St., Waltham, 54, Mass.

RADIO TELEPHONES

- Applied Electronics Co., Inc., 1246 Folsom St., San Francisco, Calif.
 •Bludworth Marine, 92 Gold St., New York 38, N. Y.
 Hudson American Corp., 25 West 43d St., New York 18, N. Y.
 Kaar Engineering Corp., Palo Alto, Calif.
 •Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.
 •Raytheon Mfg. Co., 138 River St., Waltham 54, Mass.

RANGES—Galleys

- Elisha Webb & Son Co., 135 So. Front St., Philadelphia 6, Pa.
 •The Marine Mfg. & Supply Co., 34 New Street, New Brunswick, N. J.

REDUCTION GEARS

- Snow-Nabstedt Gear Corp., Welton St., Hamden, Conn.
 •Twin Disc Clutch Co., 1341 Racine St., Racine, Wis.
 G. Walter Machine Co., 84 Cambridge Ave., Jersey City 7, N. J.

RUST PREVENTIVE

- Sudbury Laboratory, Box 780, South Sudbury, Mass.

SEAM COMPOUNDS

- L. W. Ferdinand & Co., Inc., Mica Lane, Newton Lower Falls 62, Mass.

SEARCHLIGHTS

- Portable Light Co., Inc., 216 William St., New York 7, N. Y.

SHIPBUILDERS

- Blount Marine Corp., Warren, Rhode Island
 •Conrad Industries, Morgan City, La.
 Diesel Engine Sales Co., Inc., St. Augustine, Fla.
 Harvey F. Gamage, So. Bristol, Maine.
 Liberty Dry Dock, Inc., Foot of Quay St., Brooklyn 22, N. Y.
 •Morehead City Yacht Basin, Inc., Morehead City, N. C.
 Morse Boatbuilding Co., Thomaston, Me.
 •Frank L. Sample & Son, Inc., Boothbay Harbor, Me.
 •Siracusa Shipyard, Morgan City, La.
 Southwest Boat Corp., Southwest Harbor, Me.

SILENCERS

- John T. Love Welding Co., 31 Wharf St., Gloucester, Mass.
 •The Maxim Silencer Co., 126 Homestead Ave., Hartford 1, Conn.

STEERING GEAR

- The Edson Corp., 141 Front St., New Bedford, Mass.
 Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

STERN BEARINGS

- "Goodrich Cutless": Lucian Q. Moffitt, Inc., Akron 8, Ohio.
 Hathaway Machinery Co., Inc., New Bedford, Mass.

TRAWL DOORS

- Industrial Blacksmith Shop, 107 Eastern Ave., Gloucester, Mass.

VOLTAGE REGULATORS

- The Safety Car Heating & Lighting Co., Inc., Marine Div., P.O. Box 904, New Haven 4, Conn.

WINCHES

- Bodine & Dill (formerly Hettinger Engine Co.), Bridgeton, N. J.
 Hathaway Machinery Co., Inc., New Bedford, Mass.
 Ideal Windlass Co., East Greenwich, R. I.
 •New England Trawler Equipment Co., 300 Eastern Ave., Chelsea 50, Mass.
 •Stroudsburg Engine Works, 62 North 3rd St., Stroudsburg, Penn.

WIRE ROPE

- American Steel & Wire Division, United States Steel, Rockefeller Bldg., 614 Superior Ave., Cleveland 13, Ohio.
 John A. Roebling's Sons Co., Trenton 2, N. J.
 Wickwire Spencer Steel Division of The Colorado Fuel & Iron Corp., Palmer, Mass.

Nautical Facts

Courtesy of "Proceedings of the Merchant Marine Council"

Q. How can you tell to what date a chart has been corrected?

A. Charts issued by the Hydrographic Office are corrected to the date of issue and stamped to that effect on the chart. Corrections beyond the issue date are made from notices to mariners by shipboard personnel, a record of which should be readily available.

Q. What is the danger is using a carbon dioxide extinguisher in a closed compartment?

A. CO₂ gas is heavier than air and will smother the unwary. Spaces flooded with CO₂ gas should not be entered except with an oxygen breathing apparatus.

Q. How should fire hose and canvas be cleaned?

A. Fire hose and canvas should be washed with mild soap and fresh water. If necessary, a soft or bristle brush may be used. Sand, holystone, or stiff wire brushes should never be used on fire hose or canvas.

Q. If your clothing were to catch on fire, what should you do?

A. Lie down and roll up lightly in a blanket, coat, or anything available nearby that will smother the flames. If nothing is available, lie down and roll over slowly, beating out the flames with the hands.

Q. Describe the so-called suction effect on a vessel navigating in a narrow channel close to the bank.

A. A ship proceeding in a narrow channel close to the bank is exposed to two forces: bank suction and bank cushion.

On one hand, the water between the bow and the bank is built up to a higher level than that on the other bow. This is called bank cushion and tends to force the bow of the ship to sheer away from the bank.

On the other hand, due to the restricted space between the body of the ship and the bank, the water level along the ship is lowered, resulting in a suction toward the near bank. This suction force is, in turn, increased by propeller suction at the stern. The two suction forces are known as bank suction.

The resultant effect of the forces in play is to create a tendency for the ship to swing into a heading towards the opposite bank. This tendency is minimized by (1) proceeding slowly in a narrow channel, (2) preventing the ship from running unduly close to either bank.

Index to Advertisers

Air Industrial & Marine Corp. 54
 The American Brass Co. 37
 W. A. Augur, Inc. 48

Bendix Aviation Corp.,
 Pacific Division 4
 Bludworth Marine 51

Chris-Craft, Marine Engine Div. 41
 Columbian Bronze Corp. 49
 Columbian Rope Co. 1
 Conrad Industries 35
 Cummins Engine Co., Inc. 12

Diesel Corp. of N. J. 54
 The Dow Chemical Co. 10

Ederer Div., The Linen
 Thread Co. Inc. 13
 Edo Corporation 40
 Eldredge-McInnis, Inc. 51
 The Enterprise Mfg. Co. 34
 Esso Standard Oil Co. 3

Fairbanks, Morse & Co. 2
 Federal Propellers 47
 L. W. Ferdinand & Co., Inc. 48
 The Edwin H. Fitler Co. 49

The Harris Co. 50
 The Heminway & Bartlett
 Mfg. Co. 7
 Geerd N. Hendel 54
 Hyde Windlass Co. 39

Industrial Blacksmith Shop 51

The Linen Thread Co., Inc. 56

Marine Compass Co. 47
 The Marine Mfg. & Supply Co. 48
 The Maxim Silencer Co. 34
 Wm. M. McClain, Inc. 54
 Lucian Q. Moffitt, Inc. 40
 Morehead City Yacht
 Basin, Inc. 42

The National Supply Co. 6
 New England Trawler
 Equipment Co. 44
 Northill Co., Inc. 39

H. O. Penn Machinery Co., Inc. 46
 Perkins-Milton Co., Inc. 39
 Pittsburgh Plate Glass Co. 45

Radiomarine Corp. of America 43
 Raytheon Mfg. Co. 14

Frank L. Sample & Son, Inc. 51
 Siracusa Shipyard 50
 Socony-Vacuum Oil Co., Inc. 55
 The Sponge Rubber Products
 Co., Inc. 11
 A. M. Starr Net Co. 44
 Stroudsburg Engine Works 49
 Sudbury Laboratory 50
 Surrrette Storage Battery Co. 50

Twin Disc Clutch Co. 36

Wall Rope Works, Inc. 42
 Elisha Webb & Son Co. 50
 Westerbeke Fishing Gear
 Co., Inc. 54
 Wilfred O. White & Sons, Inc. 48
 Wolverine Motor Works, Inc. 9
 C. A. Woolsey Paint & Color
 Co. 51

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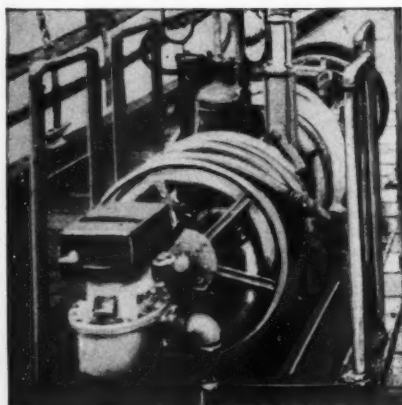
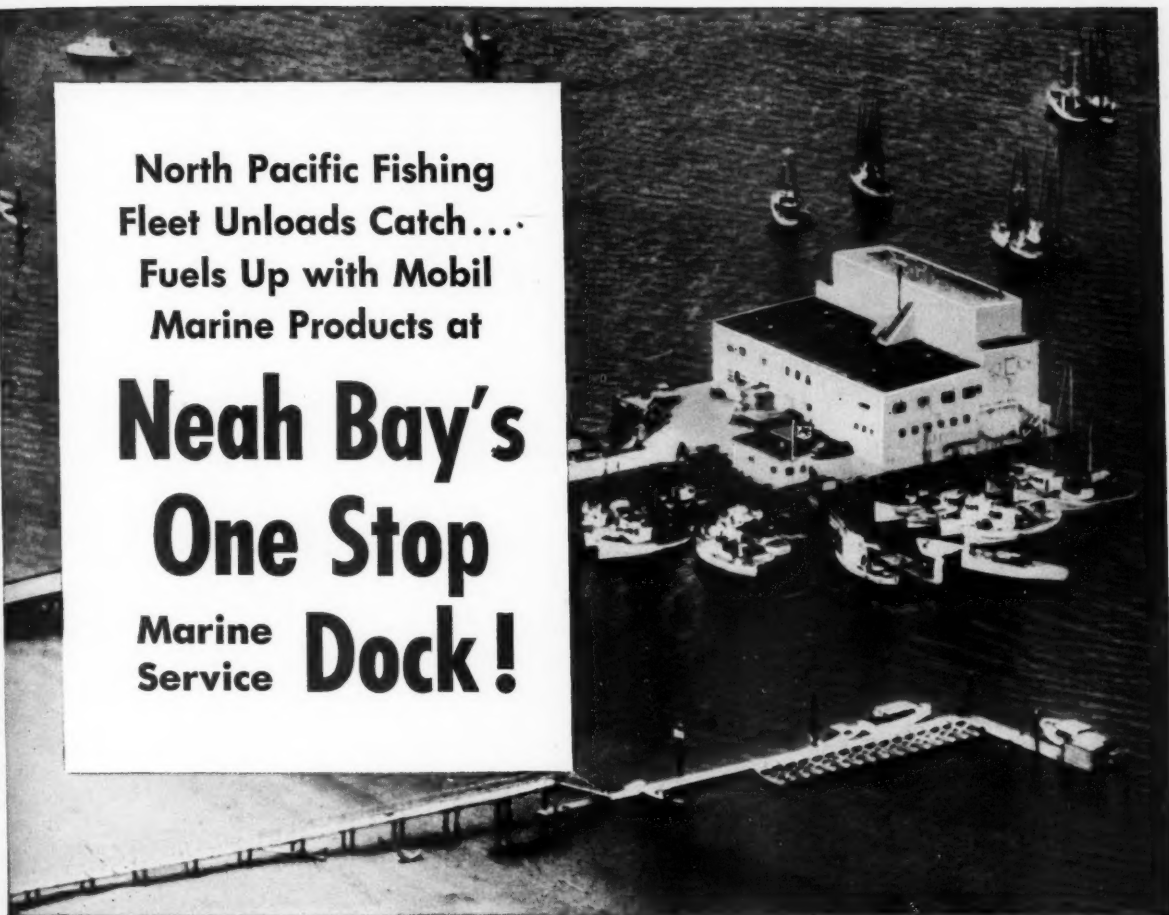
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★ ★ ★

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